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THE MEDICAL AND SURGICAL ASPECTS OF TUMORS, INCLUDING INFLAMMA- TORY AND NEOPLASTIC FORMATIONS.*

By Joseph C. Bloodgood, M.D.

MEDICAL ASPECTS.

I SHOULD like to present a medical aspect of tumors which is somewhat different from that usually considered by the profession at large (*Wisconsin Medical Journal*, August, 1910). Osler, in a contribution some years ago, presented what he called the medical aspects of cancer of the breast. In this paper he considered only the late symptoms of the hopeless stage of cancer. I wish to urge that we look upon the medical aspects of tumors and, in fact, of all surgical lesions, as the consideration of those early signs and symptoms which may be interpreted as an indication for surgical aid at a period of the disease in which surgical treatment will give the best immediate and permanent results.

Some may question the right of the surgeon to thrust upon the laity and the physician the responsibility for the early recognition of tumors.

The surgical literature on tumors, or malignant disease, as well as that considering the majority of surgical lesions, records the indisputable fact based upon a world-wide accumulated experience that progress in the treatment of malignant disease as well as other surgical conditions depends today more upon an early diagnosis, which allows earlier operation, than upon improvement in technic.

A German authority has divided the period of growth in malignant disease before it is subjected to operative treatment into three parts—first, the period of latency, during which the host is unaware of the presence of the growth; second, the time which the patient delays before seeking advice after he is aware that something is wrong; the third period is taken up by the physician first consulted before he refers the patient to a surgeon. It is quite possible that some surgeons may increase this period of delay.

Now, for the first period at the present time we can offer nothing that will tend to shorten it. If there should be discovered some

*Annual Address in Surgery, delivered before the State Medical Society of Wisconsin, Milwaukee, June 23, 1910.

test for cancer similar to the one for tuberculosis and syphilis, this period, to a certain extent, could be shortened for those individuals who would submit to this routine test. It is a long way off, however, and there are many more important things to be done before we can recommend to the public to submit to such tests when in perfect health. For the second period there is no way to reduce the delay to a minimum, except through education of the public. As in tuberculosis, so in malignant disease—there must be careful and enlightening publicity.

In some surgical diseases the relation between delay and operation is so distinct that the public is quickly educated. For example, in acute appendicitis the danger of delayed operation is almost universally known and understood. Here the relation between cause and effect is not remote. In regard to tumors, there is such a remoteness between the onset of the disease, the operation and the result that it is almost impossible for the public themselves to grasp the true situation. Fortunately, today there is sufficient evidence in surgical literature to justify statements in regard to malignant disease which can and should be given to the public as well as to the profession.

For example, everyone should know that an elevated congenital pigmented mole is a dangerous thing to carry around. Every woman should be educated to look upon a lump in the breast as an acute disease and seek advice at once. This woman should also be informed that if she follows this rule and subjects herself to treatment by a properly-trained surgeon she will not lose her breast if the tumor is not a cancer, and the removal of the benign lump will produce no mutilation. If the lump proves to be a cancer, there should be no compromise, and the breast, and more must be removed. But, having sought advice at such an early period, her chances of a permanent cure are at least 80 per cent., and probably more, while if she waits until the tumor assumes the picture of malignancy, her chances of a permanent cure are 30 per cent. at most, and probably less. Every man should know that a little ulcer, or scab, or wart, or hardness on the muco-cutaneous border of the lower lip may be the beginning of an epithelioma, and that it should be investigated at once. I am confident that today surgeons are prepared to present to the public those aspects of tumors and other surgical diseases which the public should know, in order that it may seek earlier the advice of the medical profession.

I am also quite confident that for tumors in most regions, and for other surgical diseases, the accumulated knowledge in surgical literature will allow the surgeon who has given his special attention to one or more of such lesions to present to his medical colleagues the signs and symptoms of that earlier period of the disease during which surgical treatment gives the best immediate and permanent results.

When surgery gives to the public and the profession at large

these aspects which I call medical, then the responsibility for the earlier intervention rests with the patient and his physician.

I shall attempt, therefore, in this address to present in this sense the medical aspects of tumors, including inflammatory and neoplastic formations with which I have had sufficient experience to justify my doing so.

SURGICAL ASPECTS.

The surgeon is the one called upon to subject the tumor to treatment. With few exceptions the treatment of a tumor, if neoplastic, is removal; if inflammatory, perhaps not removal. The extent of the removal varies from the simple enucleation, as for a dermoid cyst, to the most radical dissection beyond the growth, as for a cancer of the breast. Some of these extensive operations are mutilating, some may involve the removal of a jaw or an eye or the amputation of an extremity. For the benign tumor the operation will be less extensive than for the malignant tumor. Malignant tumors vary in the degree of their malignancy, and with this variation there is a difference in the extent of the operation.

There must, therefore, be, before or at the surgical operation, a surgical diagnosis. The surgical aspects should consider all of those signs and symptoms which can be brought out from the clinical history and examination, from the gross and microscopic pathology and from the accumulated knowledge of the results of a definite planned operation for a definite pathological process in a definite localization.

On such surgical aspects the surgical diagnosis rests. The result of a surgical diagnosis is immediate action, and this action leads to an operation with a definite plan and with the definite purpose of giving the patient the best assurance of an immediate and permanent cure with the least mutilation.

In a paper before the American Surgical Association at Washington, May 3, 1910, in which I presented a clinical and pathological study of bone cysts, otitis fibrosa, giant-cell sarcoma and bone aneurism (*Annals of Surgery*, August, 1910, Vol. LII), I wrote as follows: "In many surgical lesions technic is ahead of diagnosis. The development of technic is more rapid, because the results of faulty technic are immediate, while the development of diagnosis is more difficult, especially in tumors, because the results are more remote. Treatment of tumors which will insure the patient the greatest possibility of a permanent cure with the least mutilation will only be accomplished when surgeons have a better conception of the local growth of neoplasms, both benign and malignant, and are able to diagnose, with differentiation, the various lesions at the exploratory incision with or, better, without the aid of a rapid frozen section."

I wish to emphasize here that the surgical aspects of tumors, neoplastic or inflammatory, which allow a definite surgical diagnosis, involve a broader conception of the disease which is subjected to treatment than the clinical or pathological alone. It is not

sufficient for a surgeon to be able to recognize cancer, but he must know the proper operation for carcinoma in that definite localization, and he must know the results of such operative intervention. For example, if one explores a tumor in the antrum producing an expansion of this bony cavity and finds a cancer, such a diagnosis leads to an entirely different procedure than if he cuts down upon a mass in the breast and exposes a malignant epithelial tumor; for the latter the results of surgical intervention have demonstrated that here should be no compromise; the best permanent results are obtained by the most radical procedure; the operation should never be restricted. While on the other hand, for a carcinoma of the antrum of the upper jaw there have been no permanent cures after even the most radical removal, and surgical experience seems to show that these patients are more comfortable if the tumor is left alone or curetted, leaving its shell.

I shall not enter here into the discussion of whether the diagnosis in those cases in which an exploratory incision is made should be accomplished with or without a frozen section. This is a matter of no importance to the patient. If the surgeon is trained to make his diagnosis without the help of a frozen section, he will be just as accurate as the one who employs the microscopic diagnosis. It makes no difference whether the surgeon interprets the frozen section himself or has a pathologist connected with his clinic to do it for him. The important point is that in some way of another a correct diagnosis must be made, and if it is not made before the operation it must be made at the exploratory incision, so that the operation indicated may follow at once.

With few exceptions, there should not be an interval of time between the exploration and the indicated operation. But there are exceptions to this rule. For example, as far as I can ascertain from my gynecological colleagues and from the literature, there is no danger in the delay between the microscopic examination of curettings from the uterus and the radical operation for carcinoma. Sometimes a number of days, a week or more, pass, but they seem to think that there is no danger of dissemination by this procedure, which, of course, is only necessary in that early stage of cancer of the cervix which cannot be diagnosed by palpation, or the more favorable carcinoma of the body which can be reached only with the curette. Personally, I would be very glad to see gynecologists make frozen sections of the curettings and act at once, if the diagnosis is possible with this technic. In a very early epithelioma of the lip, or in any lesion there in which a diagnosis cannot be made by the palpation or inspection, it would be justifiable to excise the lesion with a fair margin of healthy tissue and have it examined microscopically. This is of importance, as I will discuss later, because now and then the lesion on the lip is not a carcinoma of the squamous-cell or spinal-cell type. In this form of cancer a very complete dissection of the glands of the neck should be combined with the local operation on the lip. But if the disease is a benign

or very early malignant wart, or a basal-cell epithelioma, or an ulcer of the inflammatory type, the local operation only is required. I will discuss this again. There may be other lesions in which it is justifiable to excise a piece for diagnosis and even allow an interval of time, but these exceptions are few. The consensus of surgical authority today takes the position that, with few exceptions, the diagnosis, if not possible clinically, can and should be made at the exploratory incision with or without the aid of a frozen section, and that after such an accurate diagnosis, the indicated operation should follow immediately.

It is rather interesting to consider the position taken by surgeons today. They are demanding of people and of the profession an opportunity to treat tumors and other surgical diseases earlier. They are attempting to educate the public and the profession to those medical aspects which will lead to this earlier recognition. If their advice is followed, if the results of their attempts at education are successful, the surgeon will more and more be called upon to make the diagnosis at a period in which it is most difficult—the period in which the prognosis for the patient is best.

It seems to me that if surgery places upon itself this greater burden and larger responsibility, it is justified in taking the position indicated in this paper—that the responsibility for the earlier intervention rests with the patient and his physician. I am confident that the public at large and the profession will agree with this statement of mine as they gain confidence in the ability of the surgeon to make the correct diagnosis during this earlier period. There must be no fear or uncertainty that the patient will be mutilated unnecessarily for a benign or less malignant tumor, or that for a malignant tumor there will be any compromise as to the radical operation if experience has demonstrated that such a radical procedure gives the best results.

I am quite certain that an INCOMPLETE operation for cancer in this very early period will give worse results than a COMPLETE operation for the same lesion in a later stage.

It is easily seen, therefore, that with the difficulties of diagnosis the responsibility of the surgeon increases, and greater experience and a different training is required of the surgeon to differentiate surgical diseases by their gross appearance or from their cellular pathology in a rapid frozen section. No operation should be undertaken unless such an accurate surgical diagnosis can be made.

It has been my observation that when tumors present themselves in this early period surgeons of the largest experience find themselves compelled to make exploratory incisions for diagnosis, and I cannot picture any remedy which will reduce the number of these exploratory incisions. The earlier the stage of the disease, when the prognosis is best, the more difficult is the diagnosis without exploration. I have studied with the greatest care the ultimate results, and am unable to find any evidence to indicate that malignant disease was disseminated when the exploratory incision was fol-

lowed at once by eradication. Theoretically, any focus of malignant disease should be handled with care. Palpation, any form of trauma, and, therefore, exploratory incision, might disseminate the cells. But, I repeat again, exploratory incision with our present methods of diagnosis is inevitable, and, as far I am able to judge, not dangerous if properly employed.

There is another strictly surgical aspect that concerns the surgeon only. For example, in the radical operation for carcinoma of the breast, of the tongue and of the lip, there may be a great difference in the actual area to be removed in the so-called radical operations. That is, there are radical operations which, as a matter of fact, are no more radical than the so-called restricted operation. If during operations for carcinoma of certain regions the surgeon has in mind anything besides the complete removal of the disease, he will find himself cutting corners, thinking of getting through rapidly and about the closure of the wound. It is only possible to keep one's self at the tedious task of dissecting out carcinoma by a careful and constant study of the ultimate results. The two great factors in the cure of cancer today are early intervention and a conscientious, radical operation. There should be no compromise with time or technic.

INCURABLE AND INOPERABLE MALIGNANT DISEASE.

Today it is not an exaggeration to state that 50 per cent. of the cases of malignant disease come for surgical help too late, and the question naturally arises, What are the medical and surgical aspects of tumors in this inoperable state?

Assuming that the publicity given to the importance of earlier diagnosis and earlier intervention is taken seriously by the public and profession, there will still be for a number of years individuals and physicians who will *procrastinate*. Today we can offer to these pitiable patients very little, and I shall not discuss this phase of malignant disease. It is one, however, to which the medical world is devoting a great deal of attention. Cancer research funds are becoming available, and widespread investigation is going on. The physician and surgeon together should use all their available means to make these patients comfortable and save them from the quack cancer cures.

If surgical experience demonstrates that operation offers any promise or comfort, it should never be refused. On the other hand, the surgeon should be unusually careful not to allow his enthusiasm to attempt an operative cure when such an attempt would only result in discomfort. The surgical problem in many cases is very difficult to settle, and I am confident that today operation is often refused when it would give relief and often done when it should not be. It is more difficult to judge of the results of palliative operations for inoperable malignant disease than the results of the different radical operations of the disease in its operable stage.

[*To be continued.*]

THE FAUCIAL TONSIL—ITS RELATION TO SYSTEMIC DISEASE AND THE RESULTS OF ITS REMOVAL.

By *Sylvan Rosenheim, M.D.*,

Baltimore.

Laryngologist to the Hebrew Hospital and Aurist to the Baltimore Eye, Ear, Nose and Throat Charity Hospital.

THE presentation of a paper on this well-worn theme might seem superfluous. However, the growing importance of the subject, and a disinclination on the part of many practitioners to recognize it, has led me to briefly review the subject.

Whether the tonsil has a function or functions is still a mooted point. The following is a brief summary of the views regarding its physiology:

The earlier writers, mostly anatomists, considered the tonsils as functionless filling-in organs (Kolliker).

Morell Mackenzie mentions the theory, very commonly held in his time, of their relationship to the sexual organs, based on the tonsillar hypertrophy which is often seen at the time of puberty.

Some clinicians have considered the tonsils of importance in the digestive functions. Bosworth thought that they acted mechanically in moistening the bolus of food. Rossbach believed they produced a saccharine ferment. Fox had the idea that the faucial tonsils absorbed superfluous salivary secretion, and Spicer assumed that the pharyngeal tonsils acted in a similar way for the tears and nasal secretion.

That the tonsils are blood-forming organs has been suggested from time to time. The discovery of the germinal centers, *i. e.*, places in the follicles in which active karyokinesis and cell division is taking place, first gave rise to this view. To substantiate it, experimenters have determined a decrease in the number of lymphocytes in the circulation after extirpation of the tonsils. Pluder has described a constant emigration of newly formed cells into the efferent lymph channels, but Goerke has pointed out how impossible it is to demonstrate this. He says (1907) that the tonsils as a part of the lymphatic apparatus may share in the blood-forming work, but by no means play an important rôle. In a recent work (1904) Wood gives his revolutionary conclusions in regard to the functions of the tonsils. He considers them the principal leucocyte formers. They give rise to the lymphocytes, which, in turn, are transformed into the various other forms of leucocytes. They arise, he says, not from the germinal centers, but directly from the tonsillar crypts.

It has been thought that the tonsils, like the adrenals and thyroid, might produce an internal secretion. The experiments along this line have given contradictory results. Masini injected an extract of tonsils into various animals and noted a rise of the blood

pressure, whereas Scheirer, performing similar experiments, noted a fall.

A physiology of the tonsils, based on facts, begins with Stöhr's discovery of the movements of the lymphocytes in the tonsil.

In 1884 Stöhr described a phenomenon that occurs constantly in the tonsillar tissue, namely, a wandering of the lymphocytes from the interior of the tonsils to the periphery. They force themselves or are forced between the epithelial cells, injuring them and destroying their function. The open spaces thus made between the epithelial cells led Gerhard to consider the tonsils as physiological wounds. Some writers believe that the tonsils are rendered much more vulnerable by this action of the leucocytes to deleterious substances and micro-organisms, which might readily penetrate the tonsils, whereas others draw attention to the fact that the constant streaming out of the leucocytes might act as a protective agency. The two opposing views have been termed the protective and the infective theories.

To determine whether foreign bodies and micro-organisms penetrate the tonsils, Hodenpyl, Goodale, Hendelsohn, Lexer, Goerke and others have performed numerous experiments. Hodenpyl (1891) smeared human tonsils with olive oil and lard, and applied for from 15 minutes to one-half hour carmine and Berlin blue in a similar manner in dogs. He also used solutions of anilin colors and atropin. He concluded from his experiments that the tonsils absorbed neither fluid nor solids under ordinary circumstances. He thought that the rarefaction of the tonsillar epithelium explained the entrance of the toxin of diphtheria into the general circulation.

Goodale (1898) and Hendelsohn (1899) arrived at different conclusions from their experiments. Goodale's experiments were performed on the human hypertrophied tonsils, and seem most convincing. He injected aqueous carmine solution into the tonsillar crypts and then excised the tonsils at intervals of from 20 minutes to two hours. In two control cases he excised the tonsils immediately after injection and found no absorption of the coloring matter. In all the others he found that carmine particles had been absorbed and that the depth at which they were discovered varied directly with the interval of time which had elapsed since the injection. Hendelsohn arrived at similar results after simply blowing colored particles over the tonsils.

Goerke (1907) claims to have arrived at negative results in repeating these experiments, and ascribes the positive results to two factors—first, to the mechanical force used in the experiments, and, secondly, to a reversal of the lymph stream, due to the amount of powder employed. He thinks that bacteria penetrate more readily the mucous membrane of the pharynx. He mentions some experiments of Lexer in which virulent bacterial cultures were painted over the throats of animals, and very few were found to penetrate the tonsils. He considers the lymphoid tissue of the

throat to be the portal of entry. He mentions some cases reported by Menzer of acute articular rheumatism following angina, in which bacteria were found deep in the pharyngeal mucous membrane, and but few, and these only superficially, in the tonsils. He thinks the tonsils owe their protective function not only to the mechanical influence of the constant stream of leucocytes toward the surface, but to other factors, namely, the bactericidal action of the lymph and that of the products set free by the breaking down of the lymphocytes. That infections occur through the tonsils Goerke doesn't deny; that they do not occur more frequently is due to the protective function of these organs. He says the tonsils reach their greatest development in childhood, when their need is greatest, as the infectious diseases are then most common, and that they retrograde after this age.

Clinical medicine and pathology give overwhelming testimony as to the causative rôle of the tonsils in various local and general diseases.

Libman reports a case of mycotic aneurysm, which he ascribed to a tonsillitis, which occurred three weeks previous to its occurrence. Death resulted after operation, and at autopsy streptococci and staphylococci were grown from the aneurysmal sac.

Cases of appendicitis have been described by Apolant and Kretz.

According to Gerhard, focal erysipelas frequently has its origin in the naso-pharynx.

Perigord narrates the history of a case of fatal meningitis in which at autopsy an abscess was found in the pharyngeal tonsil.

A case in which iritis was complicated is recorded by Dock.

Pleuritis and Pericarditis.—Numerous cases have been reported by Hanot, Heddaeus, Dock, Jessen, Richardieu, Lermoyez, Metzner and others. In a case of Hanot, streptococci were found in both the tonsillar and pleural exudates. In Metzner's case the tonsils at autopsy showed collections of pus in the interior, with an intact surface. Staphylococci and streptococci were found here, as in the pus from the mediastinum, pleural cavity and endocardium.

Pneumonia.—In a young girl seen by Jessen an angina was followed in 12 days by pneumonia, pericarditis and nephritis. Streptococci were found in the tonsils. A blood culture was negative.

Paraplegia and strabismus have been observed to follow tonsillitis by Emil Mayer and *parotitis* by Rosenberg.

Nephritis.—Leyden, Jeppe, Morse and others have laid stress on this complication of tonsillitis. Leyden and Morse call attention to the fact that some of these cases may develop into the chronic forms of nephritis.

Loeb has recently written exhaustively on this subject, his attention having been drawn to it by a series of four cases. The fact that two of his patients were physicians and two were in

physicians' families probably led him to make more careful observations than is usual. His conclusions, which are of great interest to the internist, are as follows:

1. Acute nephritis results from acute tonsillitis far more often than is generally believed.

2. The symptoms ordinarily are not manifested until some time after the inception of the disease.

3. The nephritis is of the hemorrhagic type, and differs from that of scarlet fever in that pyrexia, edema and oliguria are not marked symptoms of the disease. In addition, it follows the angina, and is not concomitant as in scarlatina and diphtheria.

4. Judging from the course of the cases reported, there must be many in which a mild nephritis occurs incident to a tonsillitis, which goes on to resolution without patient or physician being conscious of its presence.

5. As each case of lacunar tonsillitis may be a potential source of acute nephritis, it is incumbent on practitioners to observe the urine, not only during the height of the disease, but for some time after as well.

6. Spontaneous or idiopathic nephritis is probably often due to a tonsillitis that has not been considered as an etiologic possibility.

7. Chronic affections of the kidney may very well owe their origin to unrecognized acute attacks of nephritis of tonsillar origin.

8. Much light may be shed on this subject by a study of the urine in a large number of cases of acute tonsillitis.

Ostcomyelitis.—Kraske and Mayer have recorded cases.

Phlegmon of the lower extremities following follicular tonsillitis has been reported by Trumbull.

Oophoritis and Orchitis.—Joal reports six cases of this complication.

Septic Infection.—Fraenkel, Heubner and Bahrdt, Jessen and Babes relate some interesting histories. Fraenkel describes a case of retro-pharyngeal phlegmon, which began in the tonsil, followed by purulent pericarditis and pleurisy. Micrococci were found in the exudate on the tonsils and elsewhere. In another case of membranous disease of the pharynx and larynx, ulcerative endocarditis followed. Diplococci and streptococci were found. Heubner and Bahrdt saw a case of fatal scarlatina and acute articular rheumatism following membranous tonsillitis. The autopsy demonstrated a purulent exudate in the tonsil which had penetrated the capsule, causing an infectious thrombo-phlebitis of the common jugular vein. Cocci in chains were found in the exudate on the tonsils, in the joints, blood, etc. Jessen reports two interesting cases. In one a woman was brought into the hospital comatose. There were hemorrhages into the skin. Albumen and casts were found in the urine. The tonsils and mouth were normal. Death occurred in 12 hours. Autopsy revealed abscesses in the interior of the tonsil on section, the outer surface appearing nor-

mal. The spleen was large and soft. Numerous abscesses and hemorrhages were found in the kidneys. In the second case the disease began as a follicular tonsillitis, which was followed by double pneumonia, pericarditis and sepsis. On sectioning the tonsils, abscesses were found, the surface being intact. *Staphylococci* were found in the organs.

Skin Manifestations.—Erythema, erythema nodosum, purpura and erythema exudativum multiforme have been described by Jessen, Stephanides, Joal, Finger and others. In a case seen by Jessen erythema nodosum and pains in the joints followed three days after the onset of an acute follicular tonsillitis. Streptococci and staphylococci were found in the tonsillar exudate in pure culture. A blood culture was negative. In the case of a woman subject to attacks of purpura and polyarthritis, seen by Stephanides, removal of the tonsils was followed by recovery. Finger found streptococci in the skin of a patient with erythema exudativum multiforme.

Typhoid, beginning with an angina, has been noted five times by Capalarri.

Tuberculosis.—The frequency of tuberculosis of the tonsillar ring is now so generally recognized that it is rare to come across an author like R. C. Brown, who declares this to be infrequent, and thus argues in favor of the protective function of the tonsils. Mayer originally expressed the idea in a vague way that enlargement of the lymphoid tissues in the throat might in some way be related to scrofula. Lartigau and Nicoll in an article written in 1904 have given an extensive review of the subject, together with the result of their examinations of 75 pharyngeal tonsils. Parts of each tonsil were used for inoculation experiments; the rest were examined histologically. They found that 16 per cent. were tuberculous and 10 per cent. showed histological lesions of tuberculosis. The lesions are usually close to the surface and focal in character. They considered that the tonsils might be portals of entry for tuberculosis. From a careful histological examination of 64 adenoids, Uffendorfe found that 4 to 5 per cent. were tuberculous. Two of the patients gave no tuberculin reaction after the removal of the adenoids; one patient, who, however, had pulmonary tuberculosis, reacted to tuberculin after extirpation of the adenoids. The author concluded from his studies that the lesions were purely focal. Moritz Schmidt says it is remarkable how infrequent tuberculosis of the tonsils is when it is seen so often post-mortem (Strassman, 8 per cent.; Dmochowsky, 39 per cent.; Schlenker, 8 per cent.). However, the later researches, as those of Lartigau and Nicoll, have shown a high percentage of tuberculosis in adenoids removed during life. Often numerous specimens have to be examined before this is demonstrated. The *B. tuberculosis* penetrates the tonsillar epithelium in the lower animals without leaving any traces (Theobald Smith), and there is no reason why the same should not occur similarly in human diseased tonsils. In a number of cases of cervical adenitis in which the

tonsils on removal were carefully examined, both histologically and by inoculation of animals, Goodale found a large number to be tuberculous. The prompt clearing up of the glandular condition in these cases demonstrated the primary nature of the lesion in the tonsils.

Hurd draws attention to the fact that these tonsils are most frequently of the submerged type.

The literature showing the relationship between the various forms of rheumatism and tonsillitis is very extensive. The connection between acute articular rheumatism and angina has been noted for a long while. Heberden in 1804 described an angina which terminated in acute articular rheumatism, and Troussseau in 1865 revived this idea. Friedrich points out that it was one of the first diseases in which the tonsils were recognized as a portal of entry for infectious diseases. The importance of angina as an etiological factor was also early pointed out by Lagranière, Boeck, Loeb, Mantle, Lennox Brown, Fowler, Cheadle and others. The literature of the subject is completely covered in the articles of Buss, Suchannek, Bloch and Peltersohn.

St. Clair Thompson says that 30 per cent. of the cases of acute articular rheumatism are preceded by angina. According to Ingals, 13 to 29 per cent. of cases of acute articular rheumatism and tonsillitis have an identical cause.

Stoeffel, Stephanides and Gurich have reported cases of cures of the arthritis following proper treatment of the tonsils, and the latter makes this a point in favor of the tonsil being the portal of entry.

A great variety of organisms, staphylococci, streptococci, pneumococci, etc., have been found in angina. Likewise various organisms have been found in acute articular rheumatism. Poynett and Paine in eight cases found a diplococcus which they demonstrated in the tonsils, the pericardium, the heart valves and the rheumatic nodule. They review the literature and state that the following organisms have been obtained: Staphylococci and streptococci, diplococci and anaerobic bacilli resembling anthrax.

(To be continued.)

SOME POSOLOGICAL HINTS AND OTHER USEFUL INFORMATION.

New York: Fellows Company.

Realizing that the busy doctor should be familiar with the doses of drugs and their mode of elimination, if he is to write extemporaneous prescriptions intelligently, the Fellows Co. have issued a little booklet with such information as the absorption and elimination of such drugs as aconite, atropine, bromides, castor oil, cod liver oil, ergot, etc. It also contains a table of incompatibilities, a list of diuretic agents, a classified group of cathartics, the anthelmintics, anti-emetics, overdose symptoms and a diet table for tuberculous patients. This exceedingly compact and useful little paper is sent to those desiring, merely for the asking.

SOME ESOPHAGEAL AND BRONCHOSCOPIC CASES.*

By *Richard H. Johnston, M.D.*,

Baltimore.

THE esophagoscope and bronchoscope have long since passed the experimental stage. The results in the removal of foreign bodies and in the treatment of strictures of the esophagus, malignant and benign, have been little short of marvelous. In the conduct of esophageal diseases, it is not too much to hope that the esophagoscope will, within the next few years, entirely supplant all other methods of treatment. The ease of introducing the instrument and the accuracy with which the smallest pathologic condition can be studied combine to make it one of the surest diagnostic methods. Objections to these methods of examination have been the difficulty of passing cumbersome instruments and the necessity of general anesthesia. With the improved tubes and lights and better technique, these difficulties have been overcome, so that it is possible in most adult patients, with cocaine or alypin anesthesia, to make an examination of the esophagus or the bronchi in from 15 to 45 minutes. In this branch of medicine, simplicity of instruments is to be desired. In my work I invariably use Jackson's scopes and, when one has mastered their use, I do not believe they can be improved upon. The simplicity of the tube and the source of light at its end are points which do not obtain in other instruments. During the past few years esophagoscopy has steadily increased in favor, but there are still members of the profession who prefer a gastrostomy to the bloodless method. After an experience of three years, I can confidently say that 95 per cent. of all esophageal strictures can be successfully dilated through the esophagoscope with practically no danger to the patient. The fact that one sees what he is doing adds confidence.

I wish to refer briefly to four patients whom I have seen in the last few months as demonstrating the usefulness of esophagoscopy and bronchoscopy. E. C., 10 years old, was brought to me in July of this year, with the history of having swallowed lye when he was 19 months old. He passed through the usual esophagitis, acute, and gradually presented symptoms of stricture. He was placed in the hands of a surgeon who treated him with the sharp pointed whale bone bougie. His condition became such that his diet was restricted to milk, raw eggs and strained soups. If, perchance, a small particle of solid food passed into the esophagus, a spasm was at once set up which could be controlled only by the use of morphine. His food had to be so carefully supervised that his parents did not dare take him to a hotel, and he was not allowed to go on picnics because he could eat nothing. After a long course of treatment with the whale bone bougies without benefit, all treatment was

*Address delivered before the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland at Annapolis, September 13, 1910.

given up except in the attacks of esophagismus. The patient seemed doomed to remain in his pitiful condition with the possibility of complete closure and gastrostomy. Under ether anesthesia the upper end of the esophagus was examined first, since strictures from lye are often found at this point. Nothing abnormal being found, the esophagoscope was passed down until the cardia was reached at which point a hard, firm stricture was seen presenting an opening about as large as the head of a small pin. The smallest Bunt bougie was passed through the esophagoscope and into the stricture. Under the guidance of the eye, the second olive of the bougie was forced through with the exercise of some force and dilatation was begun. The stricture was dilated to 8 mm. at this sitting. The patient went home the same evening and, aside from some pain in the chest, was unhurt.

Three days later a soft wax and fibre bougie was gently passed and this was repeated on alternate days for a time. One week after the first treatment, he was eating soft diet. At this writing the bougie is passed once every ten days with no pain to the patient, and he is eating all solid foods. He will soon learn to pass the instrument himself at long intervals. After more than 8 years of liquid diet he is practically well.

In June, 1910, a woman, 26 years old, presented herself at the University Hospital with the statement that 3 days before, while eating dinner, she had swallowed a rubber plate which held two incisor teeth. She went at once to another hospital where examination of the throat showed nothing abnormal. She was having difficulty in swallowing liquids, while all solid foods were, of course, regurgitated. The next morning an X-ray picture showed a definite shadow in the cricoid region. That afternoon, under cocaine anesthesia, the patient was examined in the sitting position. The laryngoscope was passed down and the cricoid cartilage pulled forward. The swollen mucous membrane of the esophagus came into view after wiping away secretion, the edge of the plate was seen lying transversely across the lumen. It was seized with forceps and removed. For some days the patient suffered from an acute esophagitis and then made a good recovery.

In February I was asked by Dr. J. J. Carroll to examine Miss S., 35 years old, for a dyspnea of doubtful origin. She was under the care of Dr. W. T. Riley to whom I am indebted for permission to relate her history. In September, 1909, Dr. A. C. Harrison had removed some glands from the left side of the neck which were not examined microscopically. In the following November she noticed that her breathing was slightly labored on exercise. She grew gradually worse and, since nothing could be found with the mirror, we decided to make a bronchoscopic examination. The patient was nervous as was natural from marked dyspnea, but after careful cocaineization, a small bronchoscope was passed between the vocal cords. Pushing the instrument slowly downward, we came to a large, nodular bleeding mass attached by a broad base to the left wall of the trachea. The growth looked malignant, but we hoped

it might be an aberrant thyroid. The patient had so little breathing space she was advised to remain in St. Joseph's Hospital. A few days later Dr. Harrison did a low tracheotomy which relieved the dyspnea. For some weeks the general condition of the patient improved so that Dr. Harrison felt justified in removing the tracheal canula. With the mirror, no trace of the growth could be seen and, as the patient would not submit to another bronchoscopic examination, she was allowed to go home. A few weeks later the dyspnea returned, and Dr. Harrison finally had to open the trachea and remove as much of the mass as possible. The operation was difficult because the tumor was seated just above the bifurcation. Microscopic examination showed endothelioma. The patient is now wearing a long tracheal canula to make her as comfortable as possible for the short time she has to live.

In July, 1910, a feeble-minded boy in the care of Dr. F. W. Keating, had a sudden attack of cyanosis and dyspnea. The attendant had left him a few minutes and, on his return, found him on the ground apparently in a dying condition. He had been playing with paper and the supposition was that he had gotten a wad of it in his trachea. A surgeon who was called in, thought he detected a difference in the respiratory murmur of the two sides. The next morning the boy was brought to the University Hospital. When I saw him at 2 o'clock P. M. he was sitting up in bed breathing heavily and was slightly cyanotic. An X-ray picture showed a slight shadow in the region of the thymus gland, but no evidence of a foreign body. The patient was put to sleep with chloroform and the larynx was examined in the straight position through the direct laryngoscope. The bronchoscope was then passed, and just as it reached the trachea, the patient ceased to breathe and became deeply cyanotic. The instrument was immediately withdrawn and restorative measures applied. In a few minutes the boy came around; the anesthetic was again given and the bronchoscope was passed the second time. As soon as the trachea was reached the head was lowered over the end of the table until the Boyce position was gotten. On passing the bronchoscope down, a point was reached near the bifurcation which presented the typical "scabbard trachea," which means that the two walls are in close relation, resembling the scabbard of a sword. This condition always means external pressure. When the bronchoscope was pushed through the point of constriction, the breathing became quiet and regular, proving that the "scabbard trachea" was the cause of the dyspnea. Examination of the bronchi revealed no foreign body. As the boy had passed through quite an ordeal, we decided to postpone examination of the esophagus. The patient improved at once and for nearly two weeks was practically in a normal condition. He breathed and slept quietly and swallowed so well that we abandoned the idea of examining the esophagus. On Friday morning, Dr. Keating was notified that the boy was ready to go home. Late that night the resident received a hurry call from the nurse and found the boy apparently dying; breathing was very labored and cyanosis

was extreme. Relief was finally given by pulling the chin forcibly up. Through the night and the next day, attacks of dyspnea were frequent. When I saw the patient at 2 o'clock P. M., Saturday, he was literally gasping for breath. We decided that a tracheotomy offered the only means of relief though the deep obstruction made me sceptical as to a good result therefrom. Without anesthesia, the boy was placed on the table. At the first incision he ceased to breathe and, though the trachea was promptly opened and artificial respiration resorted to, he did not breathe again. At the bronchoscopic examination, it was impossible to tell whether the pressure was in front or behind the trachea. At autopsy a mass of glands, probably tubercular in character, was found in the mediastinum at the seat of constriction. Nothing could have been done to save life, and the attempt at relief did not materially hasten the end.

807 North Charles St.

LESSONS ON THE EYE. For the Use of Undergraduate Students.

By Frank L. Henderson, M.D., ex-President of the St. Louis Medical Society (1905); Chairman of the Ophthalmic Section of the St. Louis Medical Society (1910); Ophthalmic Surgeon to St. Mary's Infirmary; Consulting Oculist to the Wabash Railway; Member of the American Medical Association; Member of the Missouri State Medical Association; Member of the American Academy of Ophthalmology and Otolaryngology, etc. Fourth edition, revised. Philadelphia: P. Blakiston's Son & Co. 1910. Cloth, \$1.50 net.

This book is something new in the manner of bookmaking for students. Heretofore books on the specialties have been nearly if not as bulky for student purposes as for specialists. The makers of books seem to have lost sight of the fact that students have only a limited amount of time at their disposal, and as a consequence can only become acquainted with the basic facts. Authors have overlooked the impossibility of students acquiring any degree of proficiency in the fitting of glasses, skiagraphy, the use of the ophthalmoscope and ocular operations. These subjects should properly be relegated to more pretentious volumes intended for the specialist or advance student. These subjects in this volume, therefore, have been left out. If used by the student as intended, namely, as an accessory to classroom lectures and textbooks, its field of usefulness is unlimited. The book is profusely illustrated, well gotten together, printed on good paper and in bold type. We take great pleasure in commending it to those to whom it is directed.

ALCOHOL INJECTIONS IN THE TREATMENT OF FACIAL NEURALGIA.

By *Irving J. Spear*,

Clinical Professor of Nervous and Mental Diseases, University of Maryland.

THIS method of treatment has now been under trial for about seven years. With the exception of slight changes in solution and minor modifications of technique, the solution and method is that introduced by Schlosser, with the modifications of Oswalt, Levy and Baudouin. I have adopted the technique of Levy and Baudouin and the solution that is now used by practically all who have adopted this form of treatment.

In using this method of treatment one must be sure to select only cases of neuralgia, and not migraine, sinusitis, hysteria, etc. For the latter class of cases this treatment in itself is useless.

The solution that has given the best results is alcohol, 70 to 90 per cent., containing a small amount of cocaine. At first I used the weaker alcohol solution, but at present I am using 80 per cent. alcohol with more uniformly successful results. The following is the amount and formula of my solution: Alcohol, 80 per cent., 5ss.; cocaine hydrochlorate, gr. $\frac{1}{6}$. This is introduced into the nerve slowly at one injection.

The needle is about 10 cm. long; has a caliber of about $1\frac{1}{2}$ mm.; is marked off in centimeters. The needle has a movable guard which can be fastened at any desired point. At its upper extremity it has a thread that allows it to be screwed on to an ordinary dental syringe. Its point is beveled but sharp, and into its lumen there is fitted an obturator that is slightly longer than the needle and that has a rounded end. I use an ordinary dental syringe that holds about 35 minimis.

The end desired in this treatment is to inject the solution into the affected branches of the fifth nerve at their points of emergence from the skull.

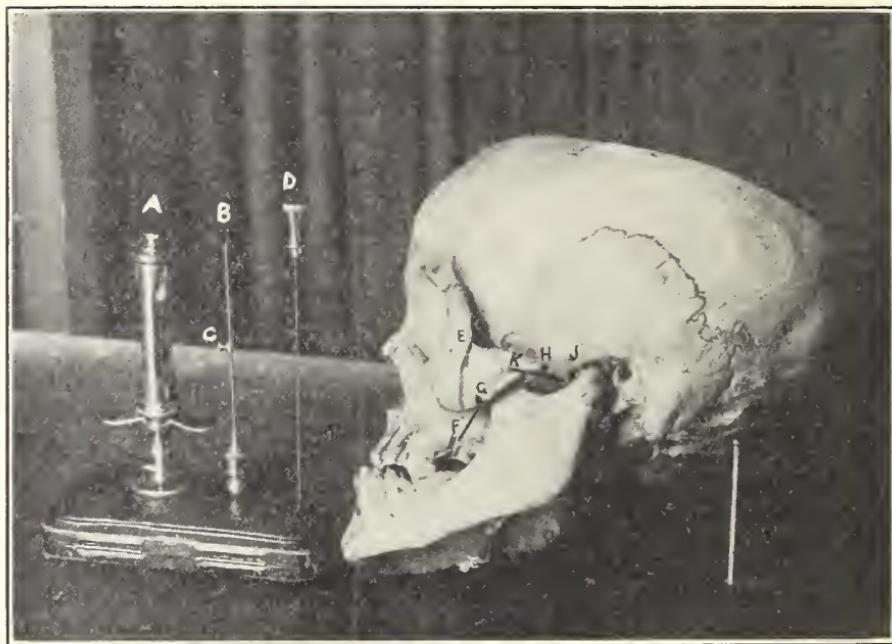
THE METHOD OF REACHING THE VARIOUS BRANCHES OF THE FIFTH NERVE AT THEIR POINTS OF EMERGENCE FROM THE SKULL.

Ophthalmic Division.—The injection of this branch in the spheno-maxillary fissure is considered a rather hazardous procedure owing to the proximity of the optic, the third and the sixth nerves. Although it has been done repeatedly without unpleasant results, I have never deemed it wise to attempt it, but in cases where the first branch was involved have injected it with the alcohol solution at the superorbital foramen.

Injection of Second and Third Branches.—The side of the face is to be thoroughly cleaned; all aseptic precautions used that are generally employed for surgical procedures; the syringe, needle and a glass to contain solution boiled; the head, face and shoulder covered with sterile towels; the patient may be either in sitting

or reclining position. The area above and below the zygome of the affected side is the only portion of the head that is left uncovered.

The second or superior maxillary branch is to be injected in the pterego-maxillary fissure immediately after its emergence from the foramen rotundum. The following is the method of introducing the needle so as to reach the nerve at this point: One is to feel for posterior border of the orbital process of the malar bone. This is prolonged downward to the lower edge of the zygoma, and about one-quarter of an inch posterior to the point where this



A—Syringe.

B—Needle.

C—Movable guard.

D—Obturator.

E—Line from posterior border of orbital process of malar bone.

F—Needle in position to inject superior maxillary branch.

G—Point one-quarter of an inch posterior to line E where needle is introduced.

H—Point one-third of an inch in front of tubercle of the zygoma at which needle is to be introduced to inject inferior maxillary branch.

J—Tubercle of zygoma.

K—Needle in position to inject superior maxillary branch.

Due to perspective, needle F appears to be directed too high and needle K to be directed too far backward.

line crosses the zygome is the point at which the needle is to be introduced. The syringe should be filled with the solution; the guard fixed on needle at a point 5 cm. from its extremity and the obturator slightly withdrawn. The point of the needle is introduced through the skin at the selected point; the obturator is then pushed forward. The needle is now directed inward slightly up-

ward, and with gentle force pushed toward the nerve. It has been my experience that we meet with more uniform success if we have the needle touch the posterior surface of the superior maxillary bone, as this is sure to guide the needle into the pterygo-maxillary fissure. Sometimes a slight ridge near its inner border causes a little difficulty, but this may be readily surmounted. The point of the needle is introduced at an angle of about 10 degrees above the horizontal plane, and at a depth of between 4½ and 5 cm. it will come in contact with the nerve. This evidences itself by extreme pain in the upper jaw or lip. The obturator is now carefully withdrawn, the syringe screwed to the needle and the solution slowly injected. After a successful injection the portion of the face supplied by this branch of the fifth nerve becomes anesthetic, and this anesthesia persists for several days. After the injection the patient may complain of numbness, stiffness, headache and soreness, but not of the sharp-shooting neuralgic pains. The unpleasant results that may arise are due to the fact that the fluid may be injected into the orbit, nasal cavity or the pharynx. While these accidents are disagreeable, they are not serious, and leave no permanent bad effects.

The third or inferior maxillary branch is injected at its exit from the skull in the foramen ovale. The patient is prepared in the manner described above. Guard is fixed on needle 4 cm. from its end. The needle is introduced at a point one-third of an inch in front of the tubercle of the zygoma immediately beneath the zygoma. After piercing the skin the obturator is again pushed forward, and the needle is directed directly inward and very slightly upward, and at a depth of 4 cm. the nerve is reached. Here, again, when coming in contact with the nerve, the patient experiences a sharp pain in the lower jaw. The obturator is withdrawn and the solution slowly injected. In some cases I have had to direct the point of the needle slightly backward to reach the nerve. The only disagreeable symptoms that follow the injection of this nerve are headache, which may last one or two days; pain in the articulation of the inferior maxillary, and swelling of the side of the face.

It is not always easy to inject the solution directly into the nerve, and at times it becomes necessary to repeat the injection. In case we have more than one branch involved, I think it advisable to inject them at intervals of 24 or 48 hours; in cases where it is necessary to repeat an injection in the same nerve, an interval of six or seven days is advisable.

Local anesthesia or general anesthesia may be used, but these are rarely necessary, the pain of the puncture being hardly more severe than the pain the patient suffers with from his neuralgia.

Results of Treatment.—This form of treatment has been used in many hundred cases both in this country and abroad. It has also been used over a period of nearly 10 years. During this time we have been able to follow many cases so treated, and the result of the experience of those men who have used this treatment in

many cases and over a long period of time is that where the nerve is properly injected in over 90 per cent. of the cases immediate relief is obtained; that recurrences may occur in from 8 to 18 months; that some cases are permanently cured with one injection; that some cases require a second injection, and a few three or more injections; that with some experience this treatment can be readily carried out; that second injections are as efficacious as primary ones; that cases that have lasted many years are no more intractable to this treatment than more recent ones; that the patient's age is no contraindication to this treatment, patients 90 years old having been relieved by this means; that it should always be tried before more serious surgical procedures are instituted.

1810 Madison avenue.

HINTS FOR THE GENERAL PRACTITIONER IN RHINOLOGY AND LARYNGOLOGY. By Dr. Johann Fein, Privatdocent at the University of Vienna. Translated by J. Bowring Horgan, M.B., B.Ch., late House Surgeon at the Hospital for Diseases of the Throat, Golden Square, London, W. With 48 figures in the text and two photographic plates. Cloth, \$1.50 net. 1910. New York: Rebman Company.

Though an exceedingly small book, medical students and practitioners will find many practical suggestions in it. It is just such books as these which appeal to students and practitioners. Irrelevant material is relegated to the larger books on the subject and only the meat retained. Of necessity, the treatment is somewhat sketchy, still the contents are sufficiently full to give the student a clear insight into the subject. The author justly states a limited but applicable knowledge of these subjects is of much greater importance for the general practitioner than an extensive knowledge which he is unable to properly apply.

THE PHYSICIAN'S VISITING LIST. Lindsay & Blakiston's. For 1911. Sixtieth Year of Its Publication. Philadelphia: P. Blakiston's Son & Co. Leather, \$1.25 to \$2.50, according as it provides for 25 or 100 patients per day.

"Blakiston's Visiting List" needs no introduction from us. The fact of its sixtieth annual edition speaks for its popularity and serviceability. For compactness it is unexcelled. Among the side features is a dose table, which is in accordance with the new U. S. Pharmacopeia. The latest edition is in every respect as complete and useful as any of its predecessors. As in former years, some little attention is devoted to the immediate treatment of poisoning, the conversion of apothecaries' weights and measures into grams, the metric system of weights and measures, and the various forms of incompatibility. It is indeed a handy and neat little visiting list, being of such a bulk that it can be without inconvenience slipped into one's vest pocket.

THE SANCTITY OF THE RELATIONS BETWEEN PHYSICIANS AND PATIENTS.

By Eugene Lee Crutchfield, M.D.,

Fellow and Gold Medalist of the Society of Science, Letters and Art, London; Fellow of the American Academy of Medicine.

THE relations between a physician and his patients are more intimate than those that obtain in any degree of friendship or any other business connection. For this reason a sanctity environs them that at all times and under all circumstances should be recognized. By the man of honor this sacredness is always observed. When a man selects a physician as the medical attendant and adviser of his family, by so doing he bears testimony to his confidence in the doctor's professional ability and in his honor as a gentleman. The latter is as forcibly implied as the former. He virtually proclaims to the community that he believes that the virtue and the honor of his wife and daughters are safe with his family physician, even though no one else be present. To the credit of our noble profession it can be stated that an amount of honor and a degree of morality characterize its members that demand our highest approbation when the question is considered in all its bearings, when we recall the frailty of human nature and remember that a large proportion of physicians are not professing Christians, many being inclined to materialism. The opportunities daily afforded medical men in the routine practice of their vocation to take advantage of the weaker sex and the solicitations, alas! too often coming from the opposite sex, are so numerous and so pointed that the profession deserve credit and praise far beyond the imagination of the laity, and infinitely transcending that which is accorded.

On the other hand, however, it must be confessed that our calling has many unworthy members. Not content with being immoral themselves, they entice from the paths of rectitude the wives and the daughters of men who have reposed confidence in them. If they give the subject any thought, they consider it merely from the aspect of immorality. The abuse of confidence placed in them by the husband or the father does not seem to appeal to them. Consequently, they do not reflect that it is logical to conclude that one who deliberately abuses confidence along this line will also, when the occasion offers, prove unfaithful to any other trust if he deems it to be to his advantage to do so. This reasoning is not merely speculative; its correctness is constantly borne out by experience.

Furthermore, it is universally conceded that the commission of one sin is prone to lead to another; it assuredly exposes to the temptation to lie in order to conceal the original offense. These transgressors do not hesitate to prevaricate about their sins of this nature. They apparently forget that "lying lips are an abomination to the Lord," that "the fearful, and unbelieving, and the abominable, and murderers, and whoremongers, and sorcerers, and idolaters, and all liars, shall have their part in the lake which

burneth with fire and brimstone," and "there shall in no wise enter into it (the holy city) anything that defileth, neither whatsoever worketh abomination, or maketh a lie." One of these criminals boasted to the writer that if one of his numerous transgressions of this character should be suspected, and he were confronted with the accusation, he would unhesitatingly tell a falsehood.

Again, it is a universal law among the civilized and the savage, observed even by the brute creation, that it is the duty of the parent to support, until an arbitrary age has been reached, his own offspring. If a man cohabits with his neighbor's wife, he runs the risk of foisting his offspring upon the other man for support, the latter believing the child to be his own. Since the above-mentioned law in its universality reveals the nature of a positive institution, and also a moral obligation, a man cannot evade his duty to support his own child. If he forces his neighbor to provide for its maintenance, such action is equivalent to taking money out of his neighbor's pocket for that purpose. An offender in this particular line once admitted to the writer after a protracted difference of opinion on the subject that it did *seem* mean; in fact, it *was* mean to make another man support one's child. *Mean!* Is that the correct term? The writer spells it in a different manner, viz., T-h-e-f-t. In addition to the pecuniary injustice, the woman's husband is burdened with the paternal care and responsibility of the education and moral training of another man's child.

Moreover, the seducer robs the husband of what every true man craves, and of that which by virtue of the marriage tie he has a right to expect—the love and affections of his wife.

The points already specified ought to be sufficient to induce a physician of whom his education, insight into human nature and his professional and social position cause the community to expect more than of the laity—to induce him to respect the confidence reposed in him by husbands and guardians. Students of mental and moral science, however, tell us that there are human beings who never have any innate and intuitive moral sense. To reach this class some argument of a more material bearing must be advanced. 'Twere futile to say to them, in the language of the code of ethics, that "no scientific attainments can compensate for the want of correct moral principles." In vain might we point out to them that inadvertently they do an injustice to every virtuous woman seen to enter their offices. The women who have yielded to their importunities will be apt to misjudge those above reproach. This argument is too altruistic to influence them. Nor have they sufficient honor to give more than outward attention to the plea that the nobility of their vocation has claims upon them which they should respect.

There is one more argument that is frequently successful when all other appeals and logical deductions fail. The reason of its success is that it relates directly to self and the means of gratifying the desires of self. Many theologians contend—and with consid-

erable show of reason—that self (selfishness) is the essence of all sin. It assuredly plays a conspicuous part in the particular crime now under consideration. It is self which makes this transgressor ignore the rights of another and abuse the confidence reposed in him by the husband of his partner in guilt. Self makes him lose sight of the deplorable consequences in time and eternity that may possibly befall the girl or the woman whom he entices into paths of wickedness. Self obliterates from his mental vision the lamentable condition in this world or the future life that may be the lot of his illegitimate issue. Self makes him indifferent to the life-long burden that he runs the risk of imposing upon another by his momentary indulgence.

But this last argument often accomplishes wonders when nothing else makes the faintest impression. So far as the writer is aware, it is at present an *argumentum innominatum*, but he offers to logicians the suggestion that it be called the *argumentum ad pecuniam*. It is potent, because when applied it touches a most vital and sensitive tract, which anatomists have not yet classified, but it might be designated the *nervus a manu ad pecuniam*.

The points relating to morality, justice, honor and confidence may fail to influence the sensual physician, but often he may be gained by convincing him that his practice is jeopardized by the course he is pursuing. Whether the accusation be just or unmerited, the belief is widespread that woman is communicative. A secret told in the strictest confidence not seldom becomes public gossip. Observation has shown that physicians who lead such lives in nearly every instance sooner or later become unmasked. It necessarily follows that when this disclosure is made practice departs. Women who value their reputation will not risk it by being seen to enter the office of such a man, nor is the situation much better if he be seen to come to their homes. Soon the male patients are apt to drift elsewhere, since in the majority of cases the choice of the family physician is decided by the wife.

Every practitioner of several years in the profession can recall one or more instances of men respected by the community, yet leading dissolute lives, who vainly imagined that they would never be detected, but sooner or later the deeds done in darkness were made manifest. By way of digression, does not this fact that in the majority of cases disclosure seems inevitable, furnish presumptive evidence of the existence of a God? If there is (not be) a God, it is He that has said, "Thou shalt," "Thou shalt not," as recorded in the Bible. Finite man thinks that he may disobey these injunctions, thus defying the Almighty. But "He that sitteth in the heavens shall laugh." His purposes may be executed with deliberation, but when least expected the blow may fall.

The physician who pursues this course loses self-respect, character, the right to expect confidence, all moral perception and practice. On the other hand, he gains "the pleasures of sin for a season," obloquy and shame in this world and HELL in the future.

Baltimore, Md.

DIPHTHERIA AND ITS TREATMENT.*

By *Edward Anderson, M.D.,*
Rockville, Md.

DIPHTHERIA.

DIPHTHERIA is a disease caused by the Klebs-Loeffler bacillus attacking the mucous membrane lining the throats of children for the most part, but sometimes those of adults, if their throats happen to be in an inflamed condition. The disease is sometimes, though rarely, contracted through an abraded surface, but never through the unbroken skin. Diphtheria, like the poor, we have always with us, but it is only when it attacks the larynx or appears in a malignant form that we are made aware of its presence.

Twenty years ago I published an article in the MARYLAND MEDICAL JOURNAL, wherein I stated that there were more children on the streets with diphtheria than there were in bed. Dr. Jacobi, in an article published some time after, made the same remark. Take a school of 300 pupils—there would never be a day in the whole schoolastic year that the germs causing the disease could not be found in the throat of some child if sufficient pains were taken to find them.

Many years ago I was called at night to see a child one year of age suffering from difficult breathing; it died of suffocation before morning. On looking down the throats of its two brothers, who were running about, playing with all the children in the town, I found their tonsils sloughing and offensive. Only last summer I was called to a case of laryngeal diphtheria in a child where the whole family had had the disease without knowing it. Had it not attacked his windpipe, his case would have gone unrecognized also.

Close contact with the mouth of the patient is necessary in order to convey the disease. Smith says three feet or less. A patient of mine, suffering from diphtheria, remained in a school of 45 children for three days before going to bed. Although his case was a severe one, followed by paralysis, not a child in the school took the disease—not even the one at the same desk. A child that sleeps on a bed that has been occupied by a diphtheria patient rarely, if ever, escapes the disease. I once treated a child who contracted the disease by sleeping one night on a bed that had been occupied by a diphtheria patient more than a year before.

Diphtheria, like typhoid fever, is a family disease, the predisposition being so strong that it is contracted on the slightest provocation, and, like smallpox, it has become a much milder disease of late years.

TREATMENT OF DIPHTHERIA.

I have always contended that we have in our possession a remedy—a drug of long standing—for each and every disease we are called upon to treat, except those requiring surgical intervention, and I am delighted to know that a German has found in arsenic a

*Read at the semi-annual meeting of the Montgomery Medical Society at Olney, Md., October 18, 1910

cure for every form of syphilis, sometimes with a single hypodermic, and I believe we have in mercury as sure a cure for diphtheria if properly administered. I always employ it in the laryngeal form of the disease; also in every severe case of faecal diphtheria by inhalation. In mild cases I use the same treatment as in simple tonsilitis—an initial dose of calomel, persulphate of iron and carbolic acid in glycerine, locally, and 15 grains of sodium salicylate by the mouth three times daily, with inhalation of steam. Mercury internally administered will not often cure diphtheria, for the patient dies before the systematic effect is obtained. If we had the same length of time in which to employ it as we have in most cases of syphilis, it would be more efficacious than in that disease.

Thirty-five years ago diphtheria appeared in Frederick City in epidemic form, when Dr. Turner Wootton was the only physician who had had much success in its treatment (and that was with calomel, so he told me). At that time it was brought to this county in the family of Mr. John Bready, who lost three of his children from it.

Laryngeal diphtheria, or membranous croup, as it was once called, has interested me greatly since my early childhood days, for 64 years ago, when I was but five years of age, two of my little playmates, children of my uncle, Dr. John W. Anderson, of Rockville, died from this form of diphtheria. At that time a disagreement arose between my uncle and Dr. Turner Wootton, Sr., in regard to performing tracheotomy, which was not done, and both children died. Since that time, until within the last 20 years, every case coming within my knowledge has ended fatally, but in those 20 years I have lost but one patient, and that one was a child too feeble to have continued to live, even had it not had the disease. The first case of laryngeal diphtheria I ever knew to recover was one of my own cases, a child of five years, whose two sisters had just died of the same affection. He was given two grains of calomel every four hours, together with ipecac, and was made to inhale steam, the only child of that age I could ever get to do it satisfactorily. Since the introduction of antitoxin I have always employed it in laryngeal cases, but in no others, and have always resorted to mercurial fumigation at the same time. I have saved a number of children by the fumes of mercury alone. The treatment of diphtheria by calomel fumigation is not new, but I think it has been confined to laryngeal cases.

The ideal way to treat laryngeal diphtheria is to first intubate, and then use mercurial fumigation. From my experience I do not think a single case would be lost if fumigation was properly done, and it cannot be properly done unless the larynx is rendered patulous. The proper way to fumigate is to put the patient, if it be a child, in a crib, place a waiter with earth on it under the crib, and on it put a pan of hot coals made from hard wood, cover the crib over with blankets to the floor, so that no vapor can escape, then sprinkle a teaspoonful of calomel on the coals. Let the child remain

under the canopy until the calomel ceases to throw off fumes. I think two fumigations, with four hours intervening, are enough in any case.

Many years ago, after losing three children in one family at the same time with stenosis of the larynx, the idea of intubation occurred to me, as, I suppose, it had to many others, but to O. Dwyer, who conceived the idea and carried it into execution, the world owes a debt of everlasting gratitude. In young children intubation should be resorted to the moment the diagnosis of true croup is made out, for some die within 12 hours after the first symptoms appear, and fumigation should be resorted to as soon thereafter as possible. I used to approach these cases with the greatest dread, but I now feel no more fear than in the treatment of many other acute diseases.

Last summer, while treating a child for diphtheria, the mother, notwithstanding an immunizing dose of antitoxin, contracted the disease, but refused to take any more antitoxin, so I gave her one fumigation, which entirely did away with the malady, but left her with a sore mouth for about a week, showing how quickly and thoroughly the mercury is absorbed with this mode of treatment.

With the opinion prevailing among physicians at the present time, a failure on the part of one of us to employ antitoxin would be considered malpractice if the patient should die, if not something worse, but if I had to depend upon either antitoxin or mercury alone, I would select the latter. Antitoxin, to do any good, must be given within the first 48 hours, but mercury is efficacious whenever given.

Instead of closing the schools when diphtheria appears in them in an active form, they should be inspected by one competent to do it and every suspicious case sent home.

MEDICAL CHAOS AND CRIME. By Norman Barnesby, M.D. Published by Mitchell Kennerley, London and New York. Price \$2 net. 1910.

Dr. Barnesby has studied deeply the evils caused by insufficient medical knowledge and carelessness on the part of physicians, and embodies his finding in his book. We are inclined to think, however, that he is more or less fanatical in his viewpoint, and while his crusade against the venereal peril is most honorable, he does not even suggest a remedy more than greater education of the youth of the land, in some such style, we would imagine, as the *Ladies' Home Journal* articles on the subject. His principal business in compiling this book has been, it would seem, to take account of and put on record every mistake that he has ever heard that a physician has made, and then to solemnly stand off and warn the newcomers to the ranks not to emulate them. The book is worth reading, but we wish the author had suggested remedies rather than cited wrongs.

Book Reviews.

OBSTETRICAL NURSING FOR NURSES AND STUDENTS. By Henry Enos Tuley, A.M., M.D., Professor of Obstetrics, Medical Department University of Louisville; Visiting Obstetrician and Lecturer on Obstetrics to Training School for Nurses, John N. Norton Memorial Infirmary and Louisville City Hospital; Member Sloane Maternity Hospital Alumni; ex-Secretary and Chairman Section on Diseases of Children, American Medical Association; Secretary Mississippi Valley Medical Association, etc. With 73 illustrations. Second edition, revised and rewritten. Price \$1.50. Louisville: John P. Morton & Co. 1910.

The keynote of this book is practicalness and simplicity of diction. The author has certainly borne in mind to the last word those to whom the book is addressed, for from beginning to end the diction is so simple that even a layman would comprehend the language. A very noticeable feature is the absence of technical terms, and those which are employed are fully defined in a glossary at the end of the volume. It is an ideal textbook for nurses, both those in training and graduates. It is full of good, useful and helpful suggestions, and will be found to be of great service to those employing it.

THE TREATMENT OF DISEASE—A MANUAL OF PRACTICAL MEDICINE. By Reynold Webb Wilcox, M.A., M.D., LL.D., Professor of Medicine (retired) at the New York Post-Graduate Medical School and Hospital; Consulting Physician to St. Mark's and the Nassau Hospital; formerly President of the American Therapeutic Society; Fellow of the American Academy of Medicine and of the American Association for the Advancement of Science; Honorary Member of the Connecticut State Medical Society; President of the Medical Association of the Greater City of New York; Vice-President of the Society of Medical Jurisprudence; formerly President of the Harvard Medical Society; formerly Vice-Chairman of the Revision Committee of the United States Pharmacopeia, etc. Third edition. Thoroughly revised and enlarged. Philadelphia: P. Blakiston's Son & Co. 1911. Cloth, \$7.50 net.

The distinctive feature of this book is the emphasis laid on diagnostic methods and therapeutic measures. The author seems to have realized the fact that the general practitioner is looking for aid in arriving at a diagnosis and the means to relieve the sufferer rather than the etiology and pathology, both very interesting and necessary as a sound basis for scientific medicine. Among the new sections added are: Brill's Disease, Riga's Dis-

ease, Baelz's Disease, Ulcer of the Esophagus, Diarrhea Chylosa, Pigmentary Cirrhosis of Hematochromatosis, Infantilism, Progeria, Neurosis of the Bladder, Milroy's Disease, Amaurotic Family Idiocy, Fragilitas Ossium and Achondroplasia, Neoplasms of the Pituitary Gland, Erythema Infectiosum, Hypertropic Biliary Cirrhosis of the Liver, Anomalies of the Aorta, including Coarctation and Hypoplasia; Chronic Cystitis, Intermittent Claudication, Carbon Monoxide Poisoning, Chylothorax, Chronic Catarrhal Pharyngitis. These additions have rendered this volume decidedly more attractive than the former. Besides these accretions, the body of the text has been brought strictly up to date. The reviewer has been struck with the practical tone which pervades the volume. The author through many years of instruction of graduates seems to have realized what the practitioner most needs, as a consequence of which he has given to medical literature a book not only strictly modern, but also of great practical utility.

PHASES OF EVOLUTION AND HEREDITY. By David Berry Hart, M.D., F.R.C.P.E., Lecturer of Midwifery and Diseases of Women, School of the Royal Colleges, Edinburgh, Oxford, Birmingham and Liverpool, and also to the Royal College of Physicians, Edinburgh. Cloth, \$2 net. 1910. New York: Rebman Company.

The book is an attempt to trace the relationship of heredity to disease. In so doing the author enters deeply into the Darwinian, Mendelian and Biometric theories of evolution. He opines that the importance of heredity has been so much exaggerated in regard to disease that many must have regretted the loss of the old Calvinistic view as to its causation, i. e., malformation or mental defects on the part of the children were attributed to no fault of his, but set down to the Creator's will. Of course, he doesn't overlook the fact that defects are transmitted from parent to offspring, but on the whole the author believes this transmission to be relatively infrequent, and again many diseases which were formerly attributed to inheritance, in the light of our present knowledge are now realized not to be. Many other interesting phases of evolution are also considered; the handicap of sex is specially interesting. Until 14 or 15 years of age boys and girls are very much alike in activity, combativeness and form, after which there is a distinct change in girls. They become shy, increase in weight and are very studious. Mentally, she outstrips the boy, but after 17 or 18 years the boy settles down and soon makes up the lost ground and surpasses the girl. Thus in the author's opinion the adult male and female differ markedly in their capabilities, and yet are complementary to each other. Although women are more intuitive than men, in art, science and

politics, women have not taken the position of men. He believes women can do what man does in ordinary life, but how far she can go on doing so without damage to her nervous system or sex characteristics is another matter. The writer concludes thus: Men and women are equipotential, but not equivalent. The difference of sex has handicapped women more than men, yet for all that she has the greatest influence on men, and at one stage of his primitive career turned the development of the race heavenwards and formed the most sacred thing in the world—Home and Hearth.

"Evolution and Heredity" is one of the most interesting and instructive books it has been our pleasure to read. Heredity is a subject not generally understood by physicians, except that defects are transmitted. Any information on the subject, especially when put in such a simple way, should be welcomed.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Vol. III, twentieth series. Philadelphia: J. B. Lippincott Company. 1910.

The Homecoming Week of the University of Pennsylvania furnishes several interesting clinics, and suggests that our Baltimore medical schools might add this feature to their attractions.

The article that impresses us most is upon the revival of auto-serotherapy. This method was brought forward some 20 years ago by Gilbert of Geneva. It has come to the front again in the French and Swiss press. An interesting description of the technique is given by Dr. C. K. Austin of Paris, with illustrative clinical cases. Applied, for instance, in acute, serious pleurisy, a syringe-ful of the fluid is withdrawn by a hypodermic needle and forced into the cellular tissues beneath the skin without removal of the needle from the original puncture. It produces free diuresis, with rapid absorption of the residual fluid. It is applicable to any disease process with effusion of non-septic nature.

The idea is that in serious exudations the specific agent of the disease exists in an extremely attenuated form, akin to serums which might be made from animals by aid of the special disease germ, but safer.

There are a number of interesting dental articles in the volume.

MENTAL SYMPTOMS OF BRAIN DISEASE. An Aid to the Surgical Treatment of Insanity Due to Injury, Hemorrhage, Tumors and Other Circumscribed Lesions of the Brain. By Bernard Hollander, M.D. With Preface by Dr. Jul. Morel, late Belgian State Commissioner in Lunacy. 1910. Cloth, \$2 net. New York: Rebman Company.

Hollander, realizing that progress can only be made in the treatment of mental disorders by an early recognition of the same, has

incorporated in his book a collection of clinical records of the mental symptoms of localized brain lesions. The volume deals chiefly with gross macroscopic lesions of the brain due to hemorrhage, tumors, etc., and the method of their localization. The book is one of great importance to psychiatrists, and is bound to leave its impress in the furtherance of the scientific investigation of mental diseases. Its contents contain, among other subjects, sections on the Functions of the Cortex of the Brain; Recent Histological Discoveries in Favor of the Localization Theory; Mental Symptoms in Lesions of the Frontal Lobes, Parietal, etc.; Idiocy and the Preservation of Special Memories; the Skulls of the Insane; the Criminal from Brain Defects and Disease; Operative Treatment of Insanity.

The writer shows a keen insight into his subject, as a result of which every chapter, and, in fact, nearly every line, bears a message not alone to the trained psychiatrist, but also to the every-day practitioner of medicine.

ANEMIA. By Dr. P. Ehrlich, Geh. Obermedizinalrat Professor; Director of the Koenigl. Institut fuer Experimentelle Therapie, Frankfort a.-M., and Dr. A. Lazarus, Professor of the University of Berlin-Charlottenburg. Part I, Volume I. Normal and Pathological Histology of the Blood. Second edition. Enlarged and to a great extent rewritten by Dr. A. Lazarus, Professor (Berlin), and Dr. O. Naegeli, Privat-Dozent (Zurich). Translated from the German by H. W. Armit, M.R.C.S., L.R.C.P. (London). With five illustrations in the text and five colored plates. Cloth, \$4 net. New York: Rebman Company.

The American medical profession is indeed fortunate to get a translation of the work of that past master, Ehrlich, on the blood. Embodied in this most recent edition is his doctrine on anemic conditions. Here are included the researches of himself and his students. Although many of the doctrines set forth are as yet unaccepted, still it is well to have in the English language his opinions, so that they may be available to all.

Red cells, white-blood corpuscles and blood platelets are each and every one of them thoroughly discussed. With regard to the latter element, the writers believe they are preformed in living blood, in which respect they agree with Hayem, Bizzozero, Laker, Arnold, etc. Although the platelets play an important part in the coagulation of the blood, the authors do not concede that they are real cells. Whether they are intra-vital fragments of plasmatic substances, or whether they are cast off from the cells, has not as yet been determined. The glycogen contents of the platelets, according to the authors, certainly suggest that they are derivatives of the blood cells. Whereas some are inclined to the belief that

these elements are derived from the white cells, they claim that more are inclined to the red cells as their origin.

The writers bring out many more important suggestions as regards the habits of the platelets, among which their increase in volume in various anemias.

In the chapter on white-blood corpuscles is mentioned that hematologists are just beginning to recognize that the white-blood corpuscles play an important rôle in the physiology and pathology of the human organism. Virchow's discovery of leukemia was the first step in the recognition of the importance of white-blood corpuscles in pathology; in the next place, the discovery by Cohnheim that inflammation and suppuration were due to a migration of white-blood corpuscles.

The section on Normal and Pathological Histology of the White-Blood Corpuscles is exceedingly interesting and instructive.

The rôle of the red corpuscles both in health and disease is set forth in great detail, as well as the methods of drying, staining, recognition of glycogen, the microscopical test for the distribution of alkali in blood, Brenner's diabetic reaction, etc.

We have in this volume a book of great merit, full of important hematological facts and theories, written by experts in their line, and printed on good paper and in bold type; a book written by scientists, yet full of practical suggestions; a book which thoroughly demonstrates the value of the scientists to the solution of problems of the utmost concern to practical medicine.

THE PHYSICIAN'S POCKET ACCOUNT Book. By J. J. Taylor, M.D.
212 pp. Leather, \$1, postpaid. Philadelphia: J. J. Taylor,
4105 Walnut street.

The special feature of this book is a system of accounts whereby each transaction can be recorded in a moment's time in plain language, so that it is strictly legal as evidence in court without personal explanation, and so arranged that any patron's account can be ascertained on demand without any posting. There is only one entry of each transaction, and this in such a form that no posting is ever required. It saves time, labor and worry, and insures that your accounts are always up to date, so that you can send statements out every month without any delay, and can inform any patron, wherever you may meet him, of the exact state of his account. It is the simplest, quickest and easiest legal account system on the market.

The book also has some easy and practical directions for billing and collecting; some excellent business and legal hints; some valuable forms for emergency use, such as "dying declarations," "form for wills," etc.; an average medical and surgical fee bill, besides miscellaneous tables, clinical directions, etc. Having a good cash-account department and various clinical records—vaccinations, deaths and confinements—it forms a complete yearbook for the physician's pocket.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, JANUARY, 1911

ANTERIOR POLIOMYELITIS.

SUCH a widespread interest has been aroused in the medical profession concerning the nature of anterior poliomyelitis that a few words about the latest developments will not be amiss. This interest does not rest entirely on the extraordinary spread of the disease or its intense virulence, but on the discovery that it was indeed an infectious malady. Its infectiousness has been thoroughly demonstrated by Flexner and Lewis in the United States, Roemer in Germany, Leiner and Wiesner in Austria, Laudsteiner and Levaditi in Paris, all of whom have produced this affliction by experimental inoculation in the ape (*Proescher, New York Medical Journal*). These scientists have arrived at the above conclusion, although the causative organism remains as yet undiscovered. It is the opinion of these men that the organisms hitherto ascribed as the etiologic cause are accidental contaminations. Doctor Simon Flexner was the first to definitely prove that infantile paralysis arises through infection. He did this by inoculation and reproduction in the ape of the symptom complex associated with this disease in the human. The biological properties are similar to that of the virus of rabies. It passes through filters and is resistant to glycerin. Bryant's observations led him to the belief that the disease is not only infectious, but also contagious, and that the contagion emanates from the naso-pharyngeal secretions. He also opines that its inception and development is analogous to cerebrospinal meningitis. It was found that children who have associated with persons suffering from epidemic poliomyelitis were more likely to contract this disease than were children more remote. The number of cases of naso-pharyngitis was extremely large in communities where epidemic

poliomyelitis existed, and the number of cases of pharyngitis fluctuated in accordance with the existing number of cases of epidemic poliomyelitis. In view of these facts it seems probable that infantile paralysis has the same portal of entrance as epidemic cerebrospinal meningitis and true influenza (Bryant).

Proescher has described a peculiar form of organism (*New York Medical Journal*) found in a fatal case of infantile paralysis. At the autopsy performed several hours after death the well-known lesions of poliomyelitis were found. To confirm the macroscopic and microscopic diagnosis, a monkey was inoculated on September 26, 1910, with an emulsion made from various parts of the brain and spinal cord, 0.5 c.c. of the emulsion (1 in 10 dilution, was injected into the right paracentral convolution, and 10 c.c. of the same emulsion was introduced into the peritoneal cavity. The animal fully recovered from the operation, and an hour after the injection appeared to be in normal condition. No change was noted in its condition until the seventh day, when a marked ptosis of the left eye lid occurred, and elevation of the same was difficult. The temperature ranged from 103.2° F. (normal) to 105.4° F. He reports that in all other respects the animal appeared to be absolutely normal. The appetite was unaffected. The ptosis remained for three days, when it gradually subsided, but on the twelfth day paralysis of the left leg occurred. The movements of the right leg and both arms were normal, and no other clinical signs were noted. Examination of the blood showed no variation in the number of white cells, except a relative lymphocytosis. On the sixteenth day the animal was killed under chloroform narcosis, and the post-mortem examination showed no macroscopical changes in the brain or spinal cord, except a slight hyperemia and edema of the lumbar section. Various portions of the brain and spinal cord were emulsified and injected into the brain and peritoneal cavity of another monkey. Smears were made from the fresh cord, hardened in bichloride alcohol, subjected to the action of dilute lugol solution and of sodium thiosulphate and stained by Mann's method, as a result of which peculiar parasitic organisms similar to protozoic bodies were found.

As in earlier investigations these bodies may be found to be merely accidental infection, or they may be degenerated nerve cells; nevertheless their presence should be sought in a series of cases, and their constancy will determine their role as an etiologic factor.

THE LATE LOUIS DOHME.

In the death of Mr. Louis Dohme, late president of the pharmaceutical firm of Sharp & Dohme, who died December 12, 1910, the country loses one of its best-known pharmacists.

Mr. Dohme was born in Obernkirchen, Germany, on July 6, 1837. He attended school in Obernkirchen, coming to America with his parents in 1852 and locating in Baltimore.

After attending Knapp's School in this city for several years, Mr. Dohme entered the drug store of the late A. P. Sharp, which was then situated at the corner of Howard and Pratt streets. During his years of apprenticeship there he studied at the Maryland College of Pharmacy. He was graduated from that school with the highest honors in 1856. Four years later Mr. Dohme was taken into the firm by Mr. Sharp, and the name was changed to Sharp & Dohme.

He proved himself to be a man of great executive ability and an organizer. The first step he took after being admitted into the business was to extend its capacity. The manufacture of pharmaceutical preparations was begun on a small scale. After Mr. Charles E. Dohme, a brother, had been taken into the firm in 1866, it was decided still further to increase the laboratory facilities and engage in the manufacture of a general line of preparations on a more extensive scale.

Mr. Charles Dohme devoted his time to the laboratories, while Mr. Louis Dohme started out to introduce the products to physicians, pharmacists and wholesale druggists. His territory was at first confined to the neighboring cities and States. He began to expand it until it reached as far west as the Rocky Mountains and from the Gulf to Canada. He made friends rapidly, and these have remained steadfast to the firm.

Meanwhile Mr. Dohme had been made chairman of the board of examiners of the Maryland College of Pharmacy. In 1875 he was elected president of the college, which position he held until 1890, when he was succeeded by his brother, Mr. Charles Dohme. The latter retained the position until the institution was absorbed by the University of Maryland.

Mr. C. P. Dohme, a younger brother, was taken into the partnership in 1886, after having been employed by the firm in 1878 as superintendent of the pill department. In 1892 the firm was incorporated with Mr. Louis Dohme, president; Mr. Charles E. Dohme, vice-president, and Mr. Ernst Stauffen, secretary and treasurer. Besides the officers, Mr. C. P. Dohme and Dr. Alfred R. L. Dohme are included in the board of directors.

Mr. Dohme was unmarried. He had been making his home with his brother, Mr. Charles E. Dohme, at 822 North Carrollton avenue, for more than 25 years. He was a member of the Germany Club, on West Fayette street, and spent much of his time there. He was also a member of the Baltimore Country Club.

Mr. Dohme was a great lover of art and music. He attended the performances of grand opera given here, and was also fond of drama. One of his favorite pastimes was reading classic literature.

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THE IMPORTANCE OF DIRECT ENDOSCOPY IN GENERAL MEDICAL PRACTICE.*

By John R. Winslow, B.A., M.D.

HAVING been requested by the Section on Laryngology to present at this meeting some topic of common interest to the general practitioner and the laryngologist, after considerable thought I have selected that of direct endoscopy, as not only illustrating this relation, but also as exemplifying the enormous progress of modern laryngology.

I have felt, however, considerable reluctance in presenting this subject, knowing that many if not most of you regard it as an overworked fad. The general physician and surgeon seems still ignorant or incredulous as to the great practical value of these methods. They do not seem to grasp the significance of the fact that the larynx, trachea and greater part of the bronchial tree are open to direct ocular inspection; that the esophagus can be examined from its pharyngeal to its cardiac end, minutely and thoroughly, and that the gastric mucosa may be examined in the greater part of its extent.

Soon we shall have gastro-enteroscopy, which will make possible diagnosis and treatment in these regions also, for T. H. Halsted of Syracuse has recently reported a case in which he could see for a distance of more than an inch into the duodenum, and could easily have passed a tube into it.

Direct endoscopy may be defined as the examination of a cavity or a conduit of the body, whether normal or abnormal, by means of a rigid straight tube, illuminated at one or the other extremity.

This method has been applied to the

1. Respiratory passages.
2. Digestive tract.
3. Urinary tract.
4. Other cavities of the body.

You are doubtless all of you more or less familiar with the invaluable services of broncho-esophagoscopy in the localization

*Read at the joint meeting of the sections on Rhinology and Laryngology and Clinical Medicine and Surgery of the Baltimore City Medical Society, December 2, 1910.

and removal of foreign bodies from these passages. Important as this has proved to be, I shall make no reference to this aspect of their usefulness, but shall consider an even more valuable relation to general medicine, namely, in the diagnosis and treatment of conditions of disease located not only in these structures themselves, but elsewhere in the body.

Owing to limitations of time I shall be unable to enter into details of technic or pathologic appearances.

1. Respiratory Tract:

Larynx.

Trachea.

Bronchi.

Direct Laryngoscopy.

The general practitioner should be interested to know that in this method we have today the most accurate method of diagnosing and operating upon laryngeal conditions. Direct vision affords us the true proportions and an accurate estimate of size and distance, enabling us to operate exactly and without damage to the laryngeal structures. In infants it is the only method of laryngeal examination, and in young children the best method, so that while the impossibility of examining the child's larynx with the mirror, under the age of four years, used to be a dictum, today there is no age from birth on at which laryngeal examination and operation cannot be accomplished by this method. So great are its advantages that many of us have adopted it as a routine method of operating in adults as well as in children.

When a tracheal fistula is present or indicated, we can now, by retrograde laryngoscopy with a short tube, examine and treat the subglottic region of the larynx, which has been hitherto inaccessible.

2. Tracheo-bronchoscopy.

The entire trachea and coarser branches of the bronchial tree may be examined with great thoroughness, and in the diagnosis of internal diseases this is an essential.

The region of the tracheal bifurcation is one of very great diagnostic importance; here the two internal bronchial walls come together in a point, termed the carina trachealis.

This point, like the indicator of a scales, serves to demonstrate and measure the normal bronchial movements.

Normally the Carina trachealis moves forward and downward upon deep inspiration, returning to the usual position upon expiration.

This normal anterior movement of the bifurcation is never wanting, and its absence indicates a mechanical fixation of the tracheal bifurcation, as by inflamed bronchial glands, aneurysm of the aorta, mediastinal tumors, etc.

Anomalies of *form* are especially recognizable in the region of the bifurcation; normally the right bronchus descends precipitously, the left bronchus less so. If then the left bronchus descends nearly as precipitously as the right, there must be some

pathologic compression, as by pleurisy, aneurism, scar formation, etc.

The normal carina consists of two plates meeting at an acute angle. Broadening of the carina, encroaching even slightly upon one or both bronchi, indicates a pathologic condition, usually of bifurcational bronchial glands.

Prior to the advent of the bronchoscope the *appearance* of the bronchial mucous membrane during life was unknown. Normally the color of the bronchial mucous membrane is much paler than elsewhere, being of a yellowish pink appearance, which becomes in places almost white; this is liable to deceive the inexperienced observer. Alterations of color are frequent, both in *acute* and chronic catarrhal affections, and are similar to those occurring elsewhere in the air tract.

Inflammatory or angio neurotic *edema* may readily be recognized through the endoscope.

Pseudomembranous tracheitis and bronchitis may be diagnosed and a specimen removed for investigation.

Acute *abscess* of the trachea or coarser bronchi (lung periphery) has been located and evacuated.

It is especially noteworthy that in *bronchitis* the bronchoscopic appearance does not always correspond with the auscultatory signs; thus with sibilant or even coarse mucous rales present we may find no bronchoscopic abnormality, and must conclude that the process is located not in the medium or larger bronchi, but in the smallest subdivisions; on the other hand we may discover at times indubitable bronchitis, of which the most careful and persistent auscultation has given no suspicion.

This is at times the underlying condition in cases of so-called "nervous cough."

Ulcers of the tracheal and bronchial tubes, of simple, syphilitic or tubercular nature, which are inaccessible to other methods, may be diagnosed and cured through the endoscope. These are frequently the cause of obstinate cough, which does not yield to ordinary treatment.

Stenosis of the air passages is of great importance, and may be due to various conditions which can be differentiated by tracheobronchoscopy. This may be acute or chronic.

Chronic stenosis may be due to numerous conditions such as structural anomalies, diaphragms, hypertrophic tracheitis, tumors, syphilis, tuberculosis, aneurism, etc.

Tumors of the trachea and bronchi are malignant in the majority of the cases; of benign tumors the commonest are papillomata. (Other varieties are intratracheal thyroid, lipomata, lymphomata, fibromata, enchondromata.)

Tracheobronchoscopy enables us to detect these in their first beginning, and to remove a specimen for diagnosis.

Even malignant growths have been repeatedly removed in this way. Benign tumors have been thus permanently cured, with the relief of *cough*, choking and other obscure symptoms.

Syphilis of the bronchi was formerly recognized only post-mortem.

By means of the bronchoscope we now know that bronchial syphilis occurs much more frequently than was formerly believed, and by its early recognition and appropriate treatment have almost nullified its very unfavorable prognosis.

Owing to the serious consequences, it is of the utmost advantage to be able to recognize and treat bronchial syphilis at the earliest possible stage.

But even when stenosis has already occurred, it has been possible in a number of cases to overcome it by systematic dilation through the bronchoscope (v Schröter).

When in Berlin last August I had the opportunity of observing a gumma of the right bronchus near the bifurcation. Several similar cases are upon record.

In diseased bronchial glands, whose diagnosis is so desirable and has been hitherto so unreliable, much is to be expected from bronchoscopy.

When an obstruction is found in the location of the bifurcation associated with broadening of the carina, we are assured that the bronchial glands are involved.

The nature of the disease, whether inflammatory, tubercular or cancerous, can only be determined upon general data, prior to rupture.

Bronchoscopy may serve not only as a means of diagnosis, but also of therapy, when broken-down bronchial glands threaten to rupture into the lungs, and to cause suffocation, putrid bronchitis or pulmonary gangrene.

In the future it may be possible to incise and evacuate such glands through the bronchoscope avoiding these serious complications.

The theories concerning the pathology of *spasmodic asthma* are many. Until two years ago these theories were based on clinical findings alone. Recently three autopsies have been reported of patients dying during an attack of asthma, but the findings have been of no importance. That asthma is based on a general neurosis seems to be the general opinion today, but what actually happens when the patient is in the throes of an attack, fighting and gasping for a breath of air, is a question which was first answered by Notowny, who used the bronchoscope as a method of observation.

Notowny had an opportunity of seeing three cases, two of which showed *redness* and *swelling* of the mucosa, the other being of normal appearance.

Galebsky, in St. Petersburg, published two cases, in one of which the mucosa of the left lung was markedly *reddened* and *edematous*, and in the other there was *no change* in the mucosa noted.

Henry Horn of San Francisco has recently reported in the Section on Laryngology and Otology of the American Medical

Association, at St. Louis, June, 1910, the case of a young woman, 27 years old, with a severe type of asthma, in whom he claims to have demonstrated for the first time a tonic cramp of the musculature of the main bronchi during an asthmatic seizure. He regards asthma as a reflex nervous phenomenon, and believes that there is no characteristic bronchoscopic picture; at times we find spasmodic contraction, at times normal mucous membrane and at times redness and swelling.

All of these writers report an almost immediate and at times persistent amelioration of the condition from the application of a 20 per cent. solution of cocaine, containing a few drops of adrenalin to the bronchial tubes as far down as can be reached.

The cocaine probably acts by blocking the chain of reflexes at the point of its application, but in certain cases the simple passing of the bronchoscopic tube seems to give relief, just as in urethral and esophageal cases.

The release of retained bronchial secretions thus accomplished is also another possible mode of action.

Severe *chronic bronchitis* is notably benefited by bronchoscopic treatment.

Cavities of the lungs may be explored and certain cases treated through the tube. Ingals reports a case that was much improved in this way.

Tracheobronchoscopy is invaluable in the investigation of certain conditions of the *thoracic cavity* of obscure nature, whose clinical symptoms are dyspnoea and pressure cough.

Among such are thoracic aneurism, tracheobronchial adenopathy, mediastinal neoplasms, goitre plongeant, hypertrophied thyroid and thymus, retrotracheal cysts.

In the diagnosis of aneurism, which is often so difficult, endoscopy affords us the earliest information, even prior to radiography. The demonstration of a circumscribed strongly pulsating, bulging area of the tracheal or left bronchial wall is extremely suggestive of thoracic aneurism. V. Schröter has even proposed to inject liquor ferri into the tumor for curative purposes.

While in its nature not a routine proceeding, bronchoscopy is for these purposes relatively safe, and should be employed in the presence of all doubtful or obscure symptoms pointing to the respiratory tract or the thoracic cavity.

Among these the most important are:

Cough, especially those cases classified as "nervous cough." Underlying such we will frequently find definite lesions of the tracheobronchial tree (localized inflammation, ulcer, tumors).

In that type of whistling cough, due to stenosis, aneurism or compression of trachea, the true condition can best be determined by direct examination.

Stridulous breathing, whether from stenosis or compression, demands such investigation.

Soreness or pain in the region of the suprasternal notch or

behind the manubrium sterni should lead to inspection of the tracheobronchial tree.

Purulent expectoration of doubtful origin calls for this method.

In cases of hemoptysis, whose cause is not certainly determined by the common methods of examination, direct inspection may show hemorrhagic tracheitis, varix, bronchial glands, or a tumor, as the causal condition.

2. Esophagoscopy.

Although a much older art than tracheobronchoscopy, endoscopy of the esophagus is by no means as well developed. Indeed, the exact pathology of the esophagus has been until recently the least known of the digestive tract.

Esophagoscopy is, however, entering more and more into current medical practice, and is rendering great service from the standpoint of diagnosis and treatment.

The majority of the affections of this organ are stenosing, and the leading and at times the only symptom is difficulty in swallowing. This may be associated with regurgitation and cachexia. Dysphagia may be caused by a variety of conditions, such as strictures, tumors, aneurisms, etc.

While spontaneous obstruction is usually synonymous with cancer, especially in the aged, still the esophagoscope has demonstrated that in at least 20 per cent. of the cases such is not the case.

Cancer of the esophagus is the commonest pathologic condition which we observe, and it is rarely treated successfully. The only hope in such cases is in early diagnosis, which is now attainable.

By persistent examination of doubtful cases we shall now and then find one in an operable stage and location.

In order that such cases may be detected, the general profession must be educated to refer all cases of even minor difficulty in swallowing for early examination.

Mosher well insists that difficulty in swallowing in a person of middle life should promptly raise the question of cancer of the esophagus, just as surely as hoarseness of any duration now does, in the case of the larynx.

Cicatricial stenosis following injuries, burns, ulcers, etc., is generally easily diagnosed.

The majority of strictures, whatever may be their origin, can be dilated through the esophagoscope with bougies. Mosher employs a rapid divulsor. Guisez uses an esophagotome with triangular cutting blades like an urethrotome. With this he performs internal esophagotomy prior to dilation with the bougies. All of these maneuvers are performed under direct visual inspection, and are much safer than external operations. Sargnon insists that, important contraindications aside, the majority of obstinate esophageal strictures should be operated upon by internal esophagotomy through the esophagoscope. Esophagoscopy may also be carried out through an esophagotomy or a gastrotomy fistula (retrograde).

Syphilis and tuberculosis are rarely located in the esophagus, and then generally in the pharyngeal portion, where the lesions are accessible to diagnosis and treatment.

Spasm of the esophagus occurs in two forms, the one simple and transitory in nervous patients, the other a truly permanent stenosis occurring at the upper and lower orifice, due to tetanic contraction, and causing absolute obstruction.

The first form may often be overcome by a single passage of the esophagoscope, under cocaine anesthesia, while the second variety will require a prolonged process of dilation, as in organic stenosis.

Spasim of the dilated or thoracic portion of the esophagus is exceptional.

Dilatations and diverticula of greater or less extent accompany all forms of stenosis, in proportion to the degree of occlusion.

The esophagoscope enables us to determine the size and location of these pouches, and above all to discover the persisting lumen, a point essential to attempts at treatment.

External compression may produce stenosis of the esophagus by causing a protrusion of the affected wall into the lumen of the canal; when the protrusion exhibits pulsations and expansile movements, we should suspect aortic aneurism.

Thus in certain cases of dysphagia it may be possible to establish a diagnosis before the appearance of any other clinical sign.

The writer had the privilege a few years ago of seeing a small aneurism through the esophagoscope, no larger than a hickory nut.

Esophagitis, as well as wounds and tears of the esophageal wall may be located and cared for through the tube; even abscesses may be evacuated, the sac curedt and drainage established into the natural channel, avoiding external esophagotomy.

Thus we see that esophagoscopy has done its part in establishing a new pathology and a new therapy for these regions.

It is relatively easy and safe, can usually be accomplished under cocaine in adults, and should be resorted to much oftener than is now done.

3. *Other fields for Endoscopy* need only be indicated:
Encephaloscopy.

(To be continued.)

PRIMER OF HYGIENE. By John W. Ritchie, Professor of Biology, College of William and Mary, Virginia, and Joseph S. Caldwell, Professor of Biology, George Peabody College for Teachers, Tennessee. Illustrated by Karl Hassmann and Herman Heyer. Yonkers-on-Hudson, N. Y.: World Book Co. Cloth. 1910.

Ritchie's "Primer of Hygiene" is a very excellent book, and can be safely recommended for use in the grammar schools of the country.

THE MEDICAL AND SURGICAL ASPECTS OF TUMORS, INCLUDING INFLAMMA- TORY AND NEOPLASTIC FORMATIONS.

By *Joseph C. Bloodgood, M.D.*

(Continued from January, 1911.)

CLASSIFICATION OF TUMORS.

In the surgical pathological laboratory of the Johns Hopkins University and Hospital, for the purposes of investigation and teaching, I have divided the subjects first into the following great divisions: (1) Injuries; (2) Infections; (3) Tumors; (4) Lesions of special tissue; (5) Lesions of special glands; (6) Lesions of special regions.

In presenting the medical and surgical aspects of tumors, including inflammatory and neoplastic formations, I find material for this paper in each of these six great divisions.

When we view the medical aspects of *tumors* as the consideration of those early signs and symptoms which may be interpreted as an indication for surgical aid at a period of the disease in which surgical treatment will give the best immediate and permanent result, we find on investigation that these early signs and symptoms may be of three distinct lesions—first, of the malignant tumor itself; second, of the benign tumor, which may be present months or years before it becomes the seat of a malignant change, and third, of a lesion which may be called precancerous—using the term cancer in its broadest sense. These precancerous lesions include traumatic and inflammatory diseases of the tissues, glands or regions in which the tumor develops, and which seem to have a definite etiological relation to the malignant tumor.

It will be seen at once that the removal of the benign tumor will absolutely prevent the development of a malignant tumor, at least in that focus. The medical aspects, therefore, in relation to certain benign tumors are now well established, and this information should be given publicity.

It is more difficult to establish the definite etiological relation between certain traumatic and inflammatory diseases and carcinoma; but, nevertheless, at the present time the relation of cause and effect is sufficiently clear to justify the medical profession to urge the curative treatment of such traumatic and inflammatory disease in the non-malignant stage. Treatment here not only relieves the patients of the discomfort of the benign condition, but protects them from a malignant change which may be excited by the prolonged chronic irritation to the tissues involved by the inflammatory process.

The evidence supporting the view that a benign tumor may later take on malignant change and that certain traumatic and inflammatory diseases predispose to carcinoma and sarcoma is daily in-

creasing; the clinical evidence which has been accumulating for years is constantly being recorded in recent literature, and those interested chiefly in the experimental study of malignant tumors are revealing facts which confirm the conclusions from clinical evidence.

The question has assumed so much importance and interest that this year the chairman of the section on surgery of the American Medical Association, Charles H. Mayo, chose for the subject of his address "Prophylaxis of Cancer." In this address he considers the various precancerous lesions, and how their treatment in this stage reduces to a very large extent the chance of cancer in the tissue, organ or region involved.

Very frequently malignant disease starts in a tissue or organ in an area the seat neither of a previous benign tumor nor of any inflammatory or traumatic disease. In this group we must search for the earliest signs and symptoms, and present them to the profession and to the people, so that they may add this knowledge to that already given as to the benign tumors and the precancerous lesions.

The medical aspects, therefore, should include this broader view of the signs and symptoms of the lesion which slowly or rapidly leads to the formation of a malignant tumor.

In the recent meeting of the American Medical Association in St. Louis I took part in two symposiums on cancer—one before the Section on Dermatology, at which I presented the "Surgical Treatment of Malignant Tumors of the Skin," and the other before the Section on Pathology and Physiology, at which I presented the "Recent Progress in the Surgical Treatment of Malignant Growths."

In both of these papers I dwelt upon the importance of the very early recognition and treatment of the precancerous lesion, the innocent tumor and the spontaneous malignant tumor. I also discussed the medical aspects and considered, with some detail, the method of surgical diagnosis on which should be based the operation for the special lesion in the definite locality under treatment.

As these two papers will be published in the *Journal of the American Medical Association*, it seems unnecessary to repeat here, except very briefly, what has been said there.

INJURIES.

In the paper before the Section on Pathology and Physiology I called attention to the relationship between trauma and sarcoma. This has a very important medical aspect. Sarcoma of soft parts and sarcoma of bone so frequently follow injury that from the beginning of the literature on these subjects the etiological relationship between the two has been the subject of comment. When any of the symptoms due to injury—swelling, pain or loss of function—do not disappear in the usual, expected time, or reappear after their primary disappearance, there should be no delay in a careful examination, an X-ray study and an exploratory incision if sarcoma cannot be excluded.

Many benign lesions as well as sarcoma may follow injury—the organized hematoma or blood cyst, the rare and interesting lymphcyst, the different forms of myositis, especially the ossifying myositis which often contains a blood cavity; the ossifying periostitis or exostosis, the benign bone cyst.

The trauma may localize an infection—a syphilitic gumma of the soft parts, or a lactic periostitis with or without new bone formation, a gonorrhreal infection in a joint which now and then may lead to a periostitis; tuberculosis of soft parts, bones and joints often exhibit their first symptoms after a trauma. In my study of sarcoma of the soft parts and bone it is an exception not to find the history of an injury within a few weeks or months before the appearance of the tumor.

With this evidence the medical aspects of an injury become much more interesting and important. The patient must be taught to seek advice if the results of an injury do not disappear rapidly, or if they reappear. The physician must bear in mind the possibility of malignant disease, and unless this can be absolutely excluded, exploratory incision for the purpose of a definite diagnosis, to be followed by the appropriate treatment, should be advised, and there should be no delay.

The exact relation between trauma and sarcoma is difficult to establish. The focus of the malignant disease may already be present, and the trauma excite its growth; or, on the other hand, the malignant tumor may develop from the new cells thrown out by the injured tissue to accomplish the healing of the defect produced by the injury.

After every wound the tissues react and produce what is called granulation tissue. This in the early stage is very vascular and cellular, and one would expect from such tissue a very malignant cellular sarcoma. As a matter of observation, it is this form of sarcoma that we observe shortly after injury.

The granulation tissue after a time becomes scar tissue, and in this tissue we frequently see a sarcoma which develops as a rule years after the healing of the wound; its cellular picture is that of a fibrospindle-cell tumor, and the prognosis for a complete cure after local removal is very good, while the prognosis of the more cellular sarcoma which develops more quickly after an injury is extremely bad.

The relation between carcinoma and trauma is much less distinct.

INFECTIONS.

All infections give rise to inflammatory tissue, just as a trauma does, but the reaction on the part of the infected tissue is, as a rule, greater than in the injured tissue. The ordinary pyogenic infection leads rapidly to an abscess, which soon ruptures or is incised, and heals. We do not often see malignant disease develop in the focus of a healed pyogenic infection. However, if it leaves an ulcer, or an area of induration, the development of a malignant tumor is quite possible, and for this reason the ulcer or the inflammatory nodule

should be excised. For example, in the breast I have now observed eight cases of scirrhus carcinoma which developed in a definite indurated mass, which was the residue of a pyogenic abscess during lactation. In these cases the indurated area had been quiescent from 10 to 30 years; then, without any definite etiological factor, it began to grow. It is therefore natural to conclude that such masses should be excised. On the other hand, I have been unable to find any etiological relationship between a lactation mastitis, with or without abscess, which heals without any residual scar tissue, and later carcinoma of the breast. We have from this evidence a pretty definite indication what to do; if there is any residue after lactation mastitis cut out the scar tissue. The scar tissue of a clean cut with healing *per primam*, in my experience, has never been the later seat of either the connective tissue or the epithelial tumor.

I have observed quite a large number of fibrospindle-cell tumors (perhaps they are sarcomas) to develop in dermal nodules left after the infection of a hair follicle or a skin gland. The complete excision of such nodule is a good plan, because later it may grow; as a rule, the tumor produced is of this fibrospindle-cell type, in which a cure is accomplished by local excision. But now and then a more malignant sarcoma has developed, and death has followed from internal metastasis, in spite of local excision.

When the infection leaves an ulcer of the skin or mucous membrane, every effort should be made to accomplish the rapid healing of the ulcer. If this is not successful, the ulcer should be excised, no matter where situated. The most common malignant tumor to develop in such an ulcer is carcinoma. Sarcoma is unusual.

The ulcer which develops on the tongue or lip after a fever Lister, or any other ulcer in these localities, should be regarded with grave suspicion—carcinoma is so common here in individuals over 30 years of age that delay is often fatal. The relation between chronic ulcer of the stomach and cancer is looked upon by most surgeons as so distinct that resection is advocated for all palpable indurated ulcers, especially if there are no adhesions to liver or pancreas, which would make the operation for ulcer unnecessarily dangerous, and for cancer, if it were present in the ulcer, hopeless.

The granulation-tissue tumor, ulcer, fungus or sinus associated with specific infections, such as tuberculosis, lues, actinomycosis, etc., when present a long time not infrequently become the seat of carcinoma. This possibility is another indication for radical attempts at healing. In the unhealed sinuses of chronic osteomyelitis, in healed tuberculosis and old bullet wounds, there may be a malignant growth from the epidermis producing a carcinoma at the depth of the sinus. Although this is an infrequent observation, it must be borne in mind.

Chronic inflammations of the skin and mucous membrane, after a certain length of time, often lead to malignant epithelial tumors in the focus involved. In the epidermis, the keratoses of age, sunlight, lead, arsenic, X-ray and trauma are very frequent precancer-

ous conditions and easily eradicated in the benign stage. Psoriasis and foci of chronic eczemas, lesions of blastomycetic dermatitis, may become the seat of carcinoma of the skin. Foci of chronic inflammation of the mucous membrane often precede carcinoma. I have never observed a carcinoma of the gum, except about a decayed tooth with a long history of chronic inflammation.

The relation between chronic cholecystitis, with and without gall-stones, and cancer of the gall-bladder is commented upon by many observers; also appendicitis and carcinoma of the appendix. To my mind, there is sufficient discomfort from the benign condition to justify an operation for its relief without regard to the remote possibility of a carcinoma as an additional argument for operation.

TUMORS.

Those tumors which are instructive to study together as tumors, and not as lesions of special tissue, glands or regions, are as follows:

1. Epithelial tumors of skin and mucous membrane.....812 cases
2. Benign connective tissue tumors.....404 cases
3. Benign pigmented moles.....76 cases
4. Malignant pigmented moles.....65 cases
5. Sarcoma of the skin.....45 cases
6. Sarcoma of the soft parts.....54 cases

The medical and surgical aspects of these tumors and their differential diagnosis have been considered in detail in the two papers already mentioned, which were presented before the Sections on Dermatology and on Pathology and Physiology. So it will be necessary here to call attention to only a few interesting facts.

TABLE I.
EPITHELIAL TUMORS ACCORDING TO SITE AND PATHOLOGIC VARIETY.
Site. Pathologic variety.

| Site. | Spino- c e l l u l a r e | Cubo- c e l l u l a r e | Baso- c e l l u l a r e | Mal. Pigm. | Ben. Warts. | No. Note | No. | Total. |
|--------------------------------------------------|-----------------------------|----------------------------|----------------------------|---------------|----------------|-------------|-----|--------|
| Lower Lip..... | 100 | 2 | 4 | 12 | 1 | 42 | 161 | |
| Upper Lip..... | 4 | .. | 9 | 2 | .. | 6 | 21 | |
| Face, Cheek..... | 9 | 3 | 24 | 5 | 5 | 28 | 74 | |
| Chin..... | .. | .. | 2 | .. | .. | 2 | 4 | |
| Eyelid..... | 1 | 1 | 16 | .. | .. | 13 | 31 | |
| Ear..... | 6 | 1 | 4 | 1 | 2 | 3 | 17 | |
| Nose..... | 12 | .. | 24 | 5 | 4 | 9 | 54 | |
| Scalp, Forehead..... | 3 | 3 | 9 | .. | 5 | 11 | 31 | |
| Muc. Membrane of Mouth, Gum, Hard Palate..... | 23 | 3 | 2 | 3 | 2 | 16 | 40 | |
| Tonsil, Pharynx..... | 3 | 2 | 1 | .. | .. | 7 | 13 | |
| Tongue..... | 37 | .. | 7 | 4 | 6 | 24 | 78 | |
| Skin of Neck..... | 1 | .. | 5 | 1 | 1 | 2 | 10 | |
| Bronchial Cleft..... | 3 | 9 | 4 | .. | .. | 7 | 23 | |
| Upper Extremities..... | 16 | .. | 4 | 7 | 3 | 4 | 34 | |
| Lower Extremities..... | 13 | 3 | 1 | 2 | 10 | 6 | 35 | |
| Penis..... | 13 | .. | 4 | 1 | 7 | 12 | 25 | |
| Skin of Body..... | 2 | .. | 5 | 1 | 3 | 1 | 12 | |
| Totals | 246 | 27 | 125 | 44 | 49 | 193 | 684 | |

EPITHELIAL TUMORS (SOLID). (684 CASES.) TABLE I.

In studying this group of cases we are impressed with the frequency and malignancy of carcinoma of the lower lip and the tongue. In the majority of cases there is no history of a benign tumor, and rarely a long history of a precancerous lesion. There is observed, first, a little ulcer covered with a scab, surrounded by an area of induration. The local growth of the lesion on the tongue is more rapid and extensive than the same lesion on the lip.

The prognosis for even the most radical operation for cancer of the tongue is so bad, and the mutilation of the operation so distressing, that we must attempt to get this lesion earlier. The medical and surgical aspects of lesions of the tongue require a chapter for themselves for proper presentation. All that I can hope to do here is to emphasize the importance of immediate attention to any lesion of the tongue.

As the table indicates, the majority of cancers of the lip are of the spinal-cell type, and for this variety there should always be performed the complete excision of the glands of the neck from parotid to parotid. No matter how early the lesion, nor how small and apparently innocent it appears, the surgeon should not allow himself to be content with local excision only.

In Table I we have divided the total number of cases in each localization into six columns. The epithelial tumor of the spinal-cell (squamous) or cuboidal-cell (transitional) type is a local growth in which experience has demonstrated that the chances of involvement of the neighboring lymphatics are so great that today for this tumor there should always be a larger local excision, combined with dissection of the neighboring lymphatic glands and surrounding tissue in one piece. For the benign pigmented wart, the early malignant pigmented wart and basal-cell tumor, with few exceptions, local excision is sufficient.

It will be seen from the table that carcinoma of the upper lip, face and cheek, chin, eyelid and nose, scalp and forehead, skin of neck and extremities as a rule begins in some precancerous lesion or a previously benign tumor. The majority of acquired warts are the result of chronic irritation, and the basal-cell cancer has a definite relation to some form of irritation. A large number, therefore of cancers of the skin in these localities can easily be recognized in the precancerous or early cancerous stage, and one may expect a permanent cure from a properly performed local excision. But in every one of these localities the more malignant cancer of the skin is possible. It must always be thought of and excluded before any treatment is undertaken. Granting that treatment other than excision can accomplish a cure of the benign and malignant wart and the basal-cell epithelioma, it is this possibility of a spinal-cell tumor that makes such treatment dangerous unless there has been an accurate diagnosis.

The surgical aspects, therefore, of epithelial tumors as tabulated are very important. One must be able to make an accurate diag-

nosis and bear in mind that for each different kind of tumor in the different localities the extent of the local and glandular operation varies. With this knowledge the surgeon is better able to give the patient the best insurance of a permanent cure with the least mutilation, and the earlier these lesions come for treatment, especially the more malignant type, the better the prognosis.

(To be continued.)

THE PRINCIPLES OF PUBLIC HEALTH. A Simple Textbook on Hygiene, Presenting the Principles Fundamental to the Conservation of Individual and Community Health. By Thomas D. Tuttle, B.S., M.D., Secretary and Executive Officer of the State Board of Health of Montana. Yonkers-on-Hudson, N. Y.: World Book Co. Cloth. 1910.

Tuttle's book will be found most useful as a textbook to grammar-school children. The truths upon which it is based should be instilled into the mind of the rising generation either by this or a book of like character. The mind of the child is more receptive to new information than that of the adult, and if hygiene is to be taught to the laity, the foundation must be laid in childhood. The above-mentioned book will be found very useful for this purpose, as it is thoroughly reliable.

THE MODERN TREATMENT OF ALCOHOLISM AND DRUG NARCOTISM. By C. A. McBride, M.D., L.R.C.P. & S. (Edin.). Cloth, \$2 net. 1910. New York: Rebman Company.

The author looks upon inebriety as a disease, and mercilessly flays those who consider drunkenness mere deviltry on the part of those addicted to its use. He enters into the pathology of alcoholism very thoroughly, considering the action of this drug, seriatim, on the protoplasm, on the circulatory system, on the gastro-intestinal tract, on the brain and nervous system, on phagocytosis, on heat loss. The writer endorses the view of heredity as an important etiological factor in inebriety. He classifies inebriety as follows: The constant drinker; the periodical drinker; the dipsomaniac; the voluntary drinker; mixed cases. The remainder of the book is given over to the treatment of alcoholism, ether inebriety, chloroform inebriety, tea inebriety, opium inebriety. The subject, one of wide interest to the medical profession, is handled by the author in a calm, dignified fashion. Unlike many, he does not rush off into faddism, but briefly and judicially tells his experience with this sort of sickness and then outlines his treatment. Treatment by restraint is absolutely foreign to his system and religiously tabooed, but great stress is laid on a proper dietary and drug treatment. The book is very interesting and is well worth perusal.

ADVANTAGES OF DECOMPRESSION IN THE TREATMENT OF HEAD INJURIES.

By *Alexius McGlannan, M.D.*

THE important point in dealing with head injuries is to decide the amount of injury to the brain, and the degree of interference with the intracranial tension. An extensive laceration of the brain associated with compound fracture of the skull may give rise to no alarming symptoms and is likely to recover if the wound is free from infection. On the other hand, a slight injury to the head may cause death from acute hyper-tension, without any gross changes in the brain. This acute increase of the intracranial tension is the most urgent as well as the most interesting of the results of head injuries.

The danger of acute increased intracranial tension is compression anemia of the vital centers of the medulla.

TREATMENT OF FRACTURE OF THE SKULL.

The importance of these fractures comes from the secondary effects of their existence. The bone fragments are not likely to be widely separated unless the fracture is comminuted or compound, and firm union occurs rapidly. Depression of fragments causes pressure on the brain, and hemorrhage is important for the same reason.

Fracture of the vault requires no treatment unless there is a distinct open fissure. Then the skull should be trephined, because comminution or depression of the inner table is very probable.

The patient should be put at rest, given a sedative, if the headache is severe, and the bowels should be moved by salines.

Depressed fragments always require elevation. The fragments of a comminuted fracture should be elevated if they are depressed, and only pieces of bone without good dural or periosteal attachment should be removed.

Fractures of the base of the skull usually communicate with some of the openings of the head, in this way opening a route for infection of the meninges. Crowe (*Johns Hopkins Hospital Bulletin*, 1906) has shown that urotropin occurs in the cerebro-spinal fluid after its ingestion by the mouth. This drug, therefore, should be given in all cases of basal fracture.

As a further preventive of infection, the nose, mouth and ears may be disinfected. Great care must be exercised here. It is probably best to simply wipe out the cavities with sterile swabs wet with a mild antiseptic solution.

Operation in fracture of the base is done for the relief of tension occasionally in the hope of controlling hemorrhage. In the great majority of cases the fracture involves the middle fossa, and therefore Cushing (*Keen's Surgery*, Vol. III, p. 89) recommends the intermusculo-temporal opening of the skull when oper-

ating on these patients. In cases where the signs point to an occipital fracture, the suboccipital opening should be made

CONCUSSION, CONTUSION AND COMPRESSION.

The pathological and clinical relation of these conditions is so close that they are usually considered together. Whether this relation has an actual existence is a subject of controversy. Pathologists and clinicians are divided into two groups, those following von Bergmann, who taught that concussion could exist without contusion, and those who believe with Kocher that in all cases of concussion there exist minute contusions scattered throughout the brain. If we follow the latter teaching, then these conditions become a sequence of changes increasing in severity as we pass from concussion to contusion and into the state of compression of the brain. The sequence of increasing severity of symptoms is often seen in the clinical course of a patient suffering from a head injury.

Concussion.—The essential symptom of concussion is a loss of consciousness that may be momentary or longer. This may be followed by simple lethargy or a condition resembling the sleep of drunkenness. With the restoration of consciousness there is usually headache, vertigo, nausea and other general signs of cerebral disturbance. There is confusion or loss of memory concerning events incident to the injury. In many cases the patient becomes irritable, and even violent.

Hyperalgesia of regions supplied by the upper cervical nerves may occur. The area depends on the amount of injury to the brain and is found on the same side as that of the lesion. The condition may persist for several months, or even years.

Contusion.—Like concussion, this is always the result of injury. The degree of laceration varies in wide limits, from a minute extravasation to an extensive laceration. Frequently the contusion is associated with a bursting fracture of the skull. The symptoms of contusion are practically an intensification of those of concussion. The period of unconsciousness is usually longer and signs of compression almost always appear. When they do occur, lumbar puncture will, as a rule, draw off bloody fluid.

Compression.—In addition to injury, intercranial tumors, abscess, etc., give rise to compression of the brain. As a rule the latter causes give a less acute compression than the former.

Compression, the result of injury, may be due to hemorrhage or to cerebral edema from contusions. This edema (serous anemic meningitis) is a frequent cause of compression following injury to the head which does not produce fracture of the skull.

The danger point in compression is the medulla; a very little pressure here will cause rapidly fatal anemia of the vital centers, while a much greater local pressure in the frontal or temporal region may be practically without symptoms.

Kocher, Cushing, Cannon and others have shown experimentally that there is provided a marvelous protection to the

medulla by means of the arrangement of cerebral membranes, and the circulation of the cerebrospinal fluid, as well as the blood in the skull.

The blood-vascular symptoms of compression are evidences of the local and general variations in blood pressure, progressively brought forth to protect the medulla, or are due to the failure of this compensation.

Kocher (*Nothnagel's Specielle Path. und Therapie*, 1901) has divided the effects of increased tension into four stages, representing progressive increase of tension. Clinically, it is common to have the symptoms bridge these stages. Occasionally the process is arrested at one or the other stage, or it may pass directly on to the last almost immediately, depending on the severity of the lesion. The stages of general increased tension as described by Kocher are:

1. The stage of compensation in which the escape of cerebrospinal fluid and the narrowing of the veins makes the disturbance slight and without severe symptoms. The arteries are full, giving this the name—stage of congestion.

2. Failing local compensation. Here the pressure is sufficient to lessen the amount of blood flowing through a considerable part of the capillary field, but without serious alteration in the nutrition of the vital centers. The stage of anemia.

3. General circulatory involvement. Here the tension is sufficient to involve the medulla and call forth the general vasoconstrictor regulation for compensatory action.

4. Failing general compensation.

Sauerbruch, using his chamber, has studied the effects of air compression on the brain. He finds that the symptoms of the third and fourth stages of compression may occur while the brain is still hyperemic. He also shows that the brain itself is compressible; that is, that the change in volume under pressure is due not only to change in the capacity of the vessels and cavities, but is due in a great measure to actual alteration in the size of the brain cells. The functional disturbance of the cells after compression, therefore, is of great importance. Pressure through the intact dura was much less effective than the same degree of force when applied after the dura had been opened. The effect of extradural pressure was progressively increased by larger accumulations of cerebrospinal fluid.

The symptoms of compression vary with the stages and progress in like manner. Serious cases pass rapidly on to the late stages. At first the symptoms may be mild and insignificant. Headache is practically always present, and with it there may be some mental dullness. Later, in progressive cases, or early in the more serious injuries, in addition to pronounced headache, we note vertigo, restlessness, excitement or delirium. Now certain objective symptoms become apparent. Of these the rise in blood pressure and the state of the eye grounds are most important. The ophthalmoscope reveals dilatation of the veins, which

are also tortuous, and often a beginning edema of the nerve. The external veins of the head, especially the venules of the eyelids, are dilated, and the face is usually cyanosed.

In the third stage there is a marked rise in blood pressure; the respiration approaches the Cheyne-Stokes type: the pulse is slowed to 40-50 per minute and is bounding in character of the vagal quality. Examination of the retina shows choked disk: this, however, may be only transitory. As the fourth stage is approached there is a gradual failure of the compensatory action of the general circulation, the blood pressure falls, the pulse becomes rapid, the heart's action and the respiratory movements become irregular and the patient passes into coma and dies from respiratory paralysis.

Of the objective symptoms, the condition of the eye grounds is probably the most important. The regularity of this symptom has caused a great deal of discussion. Much of this, I feel sure, is due to misunderstanding by the ophthalmologists of what the condition of the retina is in early compression. Cushing (*Keen's Surgery*, Vol. IV, p. 161) points out that we must not expect to find a full-blown choked disk, but must look for slight edema with distension and tortuosity of the veins. Frazier (*Journal Amer. Med. Asso.*, June 5, 1909) quotes de Schweinitz as to the rarity of papilledema in head injury, and doubts its value in diagnosis. Probably he is one of the observers who has overlooked Cushing's advice quoted above.

The effect on the optic nerve of mechanical increase of intracranial pressure has been studied experimentally by Cushing and Bordley (*Journal Amer. Med. Asso.*, January 20, 1909). They show how an increasing pressure persistently produced brings out greater venous dilation and edema, which finally causes structural change. The formation of new connective tissue is characteristic of chronic passive congestion everywhere. From the results of these experiments it seems that choked disk is a better name for the condition than optic neuritis, papillitis, etc., names indicating an inflammatory origin of the lesion.

Treatment.—Seeking the cure of the results of cerebral trauma, we disregard the terms concussion and contusion and their significance, considering only the symptoms as they indicate degrees of cerebral compression. As long as the symptoms indicate the first, or early second stage, of compression, when the local compensation seems able to take care of the lesion, non-operative measures are indicated. The patient should be put to bed immediately with an ice cap on the head. Often it is well to shave off the hair. Atropin in doses of 1-200 gr. is said to be valuable. If the patient is shocked, salt solution by the rectum or subcutaneously, with bandaging of the extremities and pressure over the abdomen, should be used.

If the symptoms persist for more than a few hours, or seem to be passing on to those of a more severe compression, a lumbar puncture will give valuable aid. An extravasation of blood will

be indicated by bloody fluid from the puncture, while clear fluid shows that the pressure is due to edema. Persistence of pressure symptoms after lumbar puncture is an indication for the decompression operation.

Whenever the initial symptoms have been severe or persistent, the patient must be kept in bed from 10 to 14 days. An ice bag should be used continuously, the bowels moved daily, and the diet restricted.

Frequently patients reach the second or third stage of increased tension, remain here for varying lengths of time, and slowly recover. The recovery, however, is always tedious and almost always complicated by various neurotic or mental disturbances that persist for a long time. These symptoms are probably due to structural changes in the meninges or vessels, the result of the long continued effort to compensate the pressure, or to change in the brain cells themselves as shown by Sauerbruch.

The veins are engorged, a perivascular exudate is formed, the fixed cell reaction ends in scar tissue production, with consequent further interference with blood and lymphatic circulation, until finally we have structural changes not very different from those observed in chronic infectious forms of meningitis.

Prompt relief of the pressure will cure all of these patients, and their recovery will be rapid and complete.

The diagnosis of pressure can be made by careful study of the patient, but it must be made from a combination of several relatively slight symptoms, whose interpretation requires judgment and sagacity.

Mental dullness or apathy, sometimes delirium and restlessness, call attention to cerebral disturbance.

The increase in pressure in the first and second stages is not great, but it is likely to be persistent, and if not relieved sets up the chain of events enumerated.

When the signs of compression indicate the third stage, then the decompression operation is indicated. By means of this procedure we are able to relieve the failing compensation, and when the intermusculo-temporal route, devised by Cushing, is used, to control the cause in many cases.

TECHNIQUE OF OPERATION.

(*Surg. Gyn. and Obst.*, March, 1908; *Annals of Surgery*, May, 1908). The patient's head is carefully prepared by shaving and scrubbing. It is not necessary to shave the entire scalp, a point of importance when operating on women. The shaved area can be so mapped out that after recovery the remaining hair may be arranged to hide the defect. The scrubbing must be very thorough and the scalp further cleaned by ether, alcohol and bicloride. The incision is made in either of two ways—a crescentic incision about an inch above the ear, the points of the incision coming about an inch in front of and an inch behind the tip of the ear. The scalp is reflected down, uncovering the tem-

poral fascia. Or, a straight incision may be made over the temporal region down to the fascia. With either method of exposure the fascia is divided perpendicularly, the muscle fibers separated bluntly and retracted. The skull is exposed at the bottom of the wound and a button of bone removed by the trephine. If the bony opening requires enlargement, this is done by flat rongeur forceps. With subdural lesions the dura bulges into the wound and is opened after it has been picked up with forceps and transfixated by fine silk retraction sutures. In opening the dura care must be taken to avoid wounding the pia. After the dura is open the clot, if any is found, is gently removed by salt sponging, etc., and any bleeding point is ligated. In closing the wound the dura is not sutured, the muscle and fascia are brought together with fine catgut and the scalp sutured with interrupted fine silk. In traumatic cases with subdural hemorrhage it is necessary to drain because of the oozing which we can not stop. A small piece of protective is brought out from the brain through the lower angle of the wound. This drain and the silk sutures are removed at the end of forty-eight hours. Whenever the unilateral decompression does not relieve the pressure symptoms, a similar opening should be made on the other side.

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BIOLOGY: GENERAL AND MEDICAL. By Joseph McFarland, M.D., Professor of Pathology and Bacteriology, Medico-Chirurgical College of Philadelphia; Fellow of the College of Physicians of Philadelphia. Octavo, of 440 pages, with 160 illustrations. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$1.75 net. 1910.

By many the science of medicine is looked upon as something entirely unconnected with the realms of general biology. In fact, there are many who do not realize that man is subjected to the same biological laws as the organisms of the vegetable and animal worlds. Medicine, however, is only a specialization of the laws of biology as they apply to man. Great advances have been made in our knowledge of both normal and pathological conditions by studying the biological features of lower life. Most medical institutions give no course in biology at all, and as a large number of these do not require that their matriculates have a degree in arts or sciences, their graduates have no idea of the cosmical relationship existing between living matter. For this reason alone, if for no other, McFarland's "General Medical Biology" is a welcome addition to medical literature. Here in more or less non-technical language the author, starting with the cosmical relations of living matter, then passing on seriatim through the origin of life, the criteria of life, the manifestations of life, the cell, cell division, the higher organisms, reproduction, etc., lays bare the science of biology, especially as it pertains to medicine.

THE FAUCIAL TONSIL—ITS RELATION TO SYSTEMIC DISEASE AND THE RESULTS OF ITS REMOVAL.

By *Sylvan Rosenheim, M.D.*,

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(Continued from January number.)

I shall describe briefly the technique and findings in a small series of cases in which I removed the tonsils, which were studied bacteriologically by Dr. J. C. Meakins. Most of these were from the wards of the Johns Hopkins Hospital and represent the cases of acute articular rheumatism admitted during a short period. These cases seem to me to be of importance and interest, as they furnish additional evidence to prove that the tonsils and tonsillar ring are frequent portals of entry and foci of infection. All were adults whose faucial tonsils were diseased. The tonsils were enucleated under cocaine anesthesia by Worthington's method. They were carried in sterile receptacles to the laboratory and cultures taken in three ways. These Dr. Meakins classifies as external, internal and autolized cultures. The external were taken from the depths of the crypts; the internal through a sterilized cut surface from the interior and grown on slant glycerine-agar and agar plates. The autolized were made as follows: The tonsils were first washed for one minute in a 1-1000 solution of bichloride of mercury, then in sterile salt solution; after this they were placed in either broth- or milk-culture flasks.

External Cultures.—In all of these streptococci and staphylococci predominated. Other organisms, bacilli or diplococci, were also found.

Internal Cultures.—In five cases the streptococcus was found in pure culture; in four, streptococci and a few staphylococci; in one, streptococci and a few bacilli, and in one no organisms.

Autolized Cultures.—In seven cases a pure culture of streptococcus was separated; in one, streptococci and a few other cocci (four foreign colonies in two plates) were found; in one the *Staphylococcus pyogenes aureus* principally: in two the results were negative.

In one case of *arthritis deformans* streptococci were found in pure culture. This case was treated with streptococcus vaccine and improved markedly.

In five of the *arthritis* cases no note was made in the history of previous attacks of tonsillitis. At the onset of the disease in one case the patient had "sore throat," another had quinsy, and another simple tonsillitis. One patient had two weeks previously an acute coryza. No note as to throat symptoms is found in the other histories.

Two of the cases had a serious complication—an endocarditis of the mitral valves. Both of these were cases in which the streptococcus was found in pure culture internally. In another case of acute articular rheumatism complicated by mitral and aortic disease streptococci were found in pure culture in the tonsillar crypts.

All of these cases left the hospital a short time after the removal of the tonsils either well or much improved.

Since this work numerous other observations have shown the same great improvements after enucleation of the tonsils in acute and chronic arthritis, as well as in the so-called muscular rheumatism.

Chorea.—Through the courtesy of Dr. Irving Spear I am able to make the following report regarding Sydenham's chorea. These remarks are from a paper of Dr. Spear's as yet unpublished. In over 50 per cent. of the cases of chorea examination has shown diseased tonsils either before the attack or during it. In 12 out of 23 of his cases seen during the last year tonsillar enlargement and disease were present. In all these cases removal of the tonsils was advised. Seven had their tonsils removed. One of these cases was very severe and had existed, with slight remissions, for 10 years. After tonsillectomy this case showed marked improvement and is now well. Two others which were very severe recovered, as did the rest, which were of a milder type of the disease. Dr. Spear usually advises waiting until the very acute symptoms of the chorea have subsided before operating. It is not necessary to wait until the attack has passed off. Under these conditions the average time of treatment was about 20 days, whereas otherwise it was double that period.

Whatever may be the true function or functions of the tonsils, I am inclined to agree, from my studies and the results of a careful reading of the literature, with Bosworth, that normal tonsils should not be seen. Goodale's experiments were done on hypertrophied tonsils and certainly showed that such diseased tonsils absorbed foreign materials. The evidence as collected from the literature is also overwhelmingly in favor of this view. As we shall see, many of the tonsils in severe septic infections appeared normal on the surface, whereas below the surface an entirely different picture was seen. It would not answer, however, to restrict the term diseased tonsils to those which project beyond the faucial pillars, as some of the most badly diseased tonsils are those which are hidden. The history of repeated attacks of sore throat sometimes attracts attention to them, or their morbid condition is discovered in searching for a focus of a so-called cryptogenic infection. I think that everyone is agreed that any pharyngeal lymphoid tissue that is seen should be removed. This tissue is subject to all the diseases that affect the faucial tonsils, and is probably much more frequently inflamed than is supposed, as, owing to its position, the inflammation is overlooked.

In all cases examined the tonsils, even though not apparently

morbid, have disclosed evidence of disease after their removal. In some pus was seen to exude from between the anterior pillar and the tonsil; in others cheesy matter was expressed from the crypts. Even though this may not be seen on removing them, careful bacteriological examination will often reveal virulent organisms in the depths.

Our conclusions from the above studies are:

(1) That bacteria penetrate deeply into the substance of diseased tonsils.

(2) That all tonsillar tissue that appears hypertrophied should be removed. All evidence points to the ready penetration of bacteria and injurious substances into their interiors, in many cases leaving no visible sign of such penetration. In the present state of our knowledge we have no method of pointing out the dangerous varieties of tonsils. Any functions that they may perform will be carried on by the tonsillar tissue that always remains even after the most careful removal. There are no reports in the literature of damage done by such removal.

(3) In all cases where there has been a history of repeated attacks of tonsillitis this should constitute a cause for their removal, although they do not look diseased.

(4) In all infectious diseases the lymphoid tissue of the throat should be carefully examined as a possible focus of infection.

(5) The marked and immediate improvement in the series of cases reported substantiates the above conclusions.

(6) The organisms found in the tonsils in the cases reported are probably the causal agents of the attacks of acute articular rheumatism.

Now, just a few remarks regarding the removal of the faucial tonsils. The present operation of enucleation of the tonsil in its capsule, while not a dangerous procedure, is serious, and should not be attempted by any but the experienced laryngologist. We should consider it criminal for anyone but a surgeon to perform an appendectomy, and, technically, a tonsillectomy is a much more difficult affair. The operation should be done only in a properly equipped hospital and with assistants trained in this branch of surgery. A thorough physical examination of the patient should be made in the hospital before operating, and he should remain there one or more days afterwards.

While various methods of doing this operation are described, the simple method of Worthington (removal with grasping forceps and a special knife) appeals to one as following sound surgical principles. Any method in which pulling or tearing the tonsil from its bed is to be condemned as unsurgical and dangerous. An essential part of the operation is the ligating of any bleeding points, so that the patient leaves the table with dry tonsillar fossæ. Of course, it goes without saying that the faucial pillars should not in any way be interfered with by this operation. Relief of tension on these pillars, as in singers and ear cases, is one of the many indications for removal.

Carried out in this way, the results of this operation have been uniformly successful in my hands, and although among some of the earlier there have been hemorrhages and slight degrees of infection, such has not been the case recently. The use of the ligature has done away absolutely with secondary hemorrhage, and the lack of use of various styptics to control hemorrhage has done away with sepsis. So far I have done one secondary operation for recurrence in one tonsillar fossa in one of my early cases.

An interesting observation of Welty's, to which I can add testimony, is the increase in weight in "underweight" patients where there is no systemic disease present. He makes another interesting statement in this article. At an epidemic of diphtheria at the San Francisco City Hospital 20 nurses contracted the disease. All had diseased tonsils. About 20 other nurses had had their tonsils removed. None of these contracted the disease.

There have, of course, been fatalities following this operation. The same can be said of any surgical procedure, however simple it may be, and, as I have before pointed out, the proper removal of the faucial tonsil is not a simple affair. The principal cause of the deaths has been the anesthetic. Roberts recently reported three cases of this nature in which chloroform had been used. All three were of the "status lymphaticus" type. He mentions McCardie's report of 30 fatalities of this sort, of which seven followed chloroform, five chloroform and ether, six ether, and two after nitrous oxide anesthesia. The important lesson to be learned from these cases is to have an experienced anesthetist and to always use ether.

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Book Reviews.

A TEXTBOOK OF GENERAL BACTERIOLOGY. By Edwin O. Jordan, Ph.D., Professor of Bacteriology in the University of Chicago and in the Rush Medical College. Second revised edition. Fully illustrated. Octavo, of 594 pages. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$3 net. 1910.

There would seem on cursory glance to be sufficient good bacteriologies on the market, yet Jordan's has enough individuality to warrant its existence. The arrangement of the subject is excellent, and the fundamental principles and methods on which bacteriology rests is sufficiently complete and full to admirably answer the needs of the student and practitioner. Marked advances have been made in this science in the past few years. These have been incorporated in the contents. Among the most attractive features of this excellent book are chapters on the bacteriology of milk and milk products, bacteria in the arts and industries, the bacteria of air, soil and water, the bacterial diseases of plants, bacteria and the nitrogen cycle. Some few words are addressed to infectious diseases of unknown causation. The book is one of the best rounded it has been our pleasure to review. Stress is laid on the practical and what has been proven. Theory is placed in the background, but a sufficiency concerning those theories with which the student should be familiar is given to make the subject clear. The subjects are well presented, in plain terms, and the general appearance

of the book is very attractive. It is full of well-executed illustrations, some of which are colored, is thoroughly reliable, and the contents can be depended upon as being an accurate statement of our present knowledge of bacteriology.

THE PRACTICE OF SURGERY. By James Gregory Mumford, M.D., Visiting Physician to the Massachusetts General Hospital; Instructor in Surgery in the Harvard Medical School; Fellow of the American Surgical Association, etc. Octavo, of 1650 pages, with 682 illustrations. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$7 net; half morocco, \$8.50 net. 1910.

It is hard to do justice to such an excellent book. No doubt the specialist in the various lines of surgery will be more or less disappointed at the meagreness with which some of the subjects are handled. This is inevitable, as no matter how worthy and commendable a book, some will find fault. The student and general surgeon, however, will find it of immense aid in their daily tasks. An attractive feature of the volume is the manner of handling the several subdivisions, the author laying emphasis on the most common affections, and not so much space being devoted to the rarer. One is indeed much gratified and pleased to note the omission of the principles of surgery, as in a book of this character more space is thereby left for the inclusion of material of much practical importance without rendering the volume too bulky.

Concerning appendicitis, Mumford says: "The treatment of acute appendicitis has been made a subject of infinite variety. It should be almost a matter of routine. Like the offending eye in the parable, the inflamed appendix should be cut out and cast away. No sane practitioner now regards appendicitis as a medical disease to which a surgeon may be occasionally called. It is a surgical disease as much as a broken leg, and a surgeon should be called as soon as appendicitis is suspected." We heartily agree with these sentiments.

In any book on the practice of surgery the reader is most concerned with the symptoms and the surgical technic employed for the cure of the malady. In the volume before us these aspects of the subjects under consideration are both admirably handled. Especially is this true of the sections on treatment. In this respect the writer shows himself to be master of the modern advances in surgical technic. Unlike in so many books on practice of surgery, which only give a mere outline of the surgical procedures employed in the treatment of surgical conditions, here we find a proper working basis, at any rate. The illustrations are numerous, well executed and well adapted to illustrate the descriptive matter. Part I is devoted to the abdomen; Part II to the female organs of generation; Part III to the genito-urinary organs; Part IV to the chest; Part V to the face and neck; Part VI to the head and spine; Part VII to minor surgery. The above gives an idea of the scope of the book and the subjects covered. To each subject a sufficient space

is given to render it thoroughly plain to the reader, but the writer has so well condensed his material that, while it is sufficiently fulsome, it is not wearisome to the reader.

THE PREVENTION OF SEXUAL DISEASES. By Victor G. Vecki, M.D., ex-President of San Francisco German Medical Society; Member American Urological Association, American Medical Association, California State Medical Society. With Introduction by William J. Robinson, M.D. Cloth, \$1.50 net. 1910. New York: The Critic & Guide Company.

The above-mentioned book was written for the purpose of bringing the venereal peril to the attention of physician and layman alike. Therefore the language is more or less non-technical, so that he who has eyes may see and learn for himself. The author speaks right out; no obscure language is indulged in; the several groups of venereal infection are considered in turn and the methods which should be adopted to control their further propagation. The same old questions—open door or supervision, the doctor's duty, Government control of prostitution, etc.—are, one after another, handled according to the author's viewpoint. In so far as the diction employed is suited to the needs of the laity, the book has a field of usefulness, but contains very little of interest to medical readers.

A MANUAL OF DISEASES OF THE NOSE, THROAT AND EAR. By E. Baldwin Gleason, M.D., Clinical Professor of Otology in the Medico-Chirurgical College; Aurist to the Medico-Chirurgical Hospital; Surgeon-in-Charge to the Nose, Throat and Ear Department of the Northern Dispensary; formerly one of the Laryngologists to the Philadelphia Hospital. Second revised edition 12 mo. of 563 pages, profusely illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Flexible leather, \$2.50 net. 1910.

The book is no more or less than it pretends to be—a manual—and is admirably adapted to the needs of the student and the general practitioner. The essential facts of rhinology, laryngology and otology are given in a very concise and attractive form, and is sufficiently complete for student purposes or as a reference book for general practitioners. Especial stress and consideration is given to the details of examination, inspection and the use of the simpler and commoner instruments. The treatment is especially full and replete with helpful suggestions. There is a collection of reliable formulæ at the end of the book. The application of these is rendered more rational by a short description of their uses and mode of application. Bearing in mind the purposes for which the book was intended, we are more than satisfied that the author has performed his task well, and has presented to his readers a thoroughly reliable exposition of his specialty.

HEALTH CONFERENCE.

MONDAY, FEBRUARY 6.

Dr. William H. Welch, chairman; Dr. Woods Hutchinson, New York city. Subject: "How the Public Educates the Medical Profession."

TUESDAY, FEBRUARY 7.

Dr. Charles O'Donovan, chairman; Dr. Henry Goddard, Training School for Feeble-minded Children, Vineland, N. J. Subject: "The Feeble-minded Child as a Menace to the State, Socially and Morally."

WEDNESDAY, FEBRUARY 8.

Dr. Henry Barton Jacobs, chairman; Dr. Lyman F. Kebler, Chief of Drug Bureau, Department of Agriculture, Washington, D. C. Subject: "The Advertised Cures for Tuberculosis." Dr. Charles Caspari. Subject: "The Application of the Pure Food Law to Patent Medicine."

THURSDAY, FEBRUARY 9.

Dr. Hiram Woods, chairman; Dr. J. Parke Lewis, Buffalo, N. Y. Subject: "Good Sight a National Asset." Dr. John S. Fulton, chairman; Dr. Cressy L. Wilbur, Washington, D. C. Subject: "Unrecorded Babies."

FRIDAY, FEBRUARY 10.

Dr. William Rush Dunton, Jr., chairman; Dr. L. F. Barker. Subject: "The Prevention of Nervousness in Children and the Protection of the Nervous Child." Dr. Adolf Myer. Subject: "How and When to Get Help in Mental Disorders."

SATURDAY, FEBRUARY 11.

Dr. C. Hampson Jones, chairman; Dr. Rowland Godfrey Freeman, New York city. Subject: "The Relation of Good Milk to Infant Mortality."

An investigation of the housing conditions in Baltimore city will be presented, with illustrations.

This Conference is being held under the auspices of the Medical and Surgical Faculty of Maryland. During the week of February 6 there will be an illustrated lecture at 8.15 o'clock every evening in Osler Hall. Health Exhibit open daily from 3 to 10 P. M. The public is cordially invited to attend these lectures. Admission free.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, FEBRUARY, 1911

NITROUS OXIDE AND OXYGEN AS A GENERAL ANESTHETIC IN MAJOR OPERATIONS.

WITHOUT doubt the greatest advance in general anesthetics in major operations during the past decade is the development of nitrous oxide and oxygen for this purpose. Each day bears witness to its almost unlimited applicability. Its popularity is indeed on the increase, and more and more anesthetists are resorting to its employment as they recognize its advantages over the older and more generally chosen anesthetics. From very limited beginnings, it is becoming more and more favorably looked upon, and today many select this combination as the anesthetic of choice. Teter (*The Lancet-Clinic*) unequivocally claims that nitrous oxide and oxygen, when properly handled, is the safest anesthetic used. He also believes that it is freer from post-anesthetic complications than any known general anesthetic. Although the safest, the writer emphasizes the fact that it is the most difficult general anesthetic to administer. This conclusion is based on the following reasons:

(1) Nitrous oxide gas must be given from 80 to 95 per cent. pure to sufficiently saturate the blood to produce that change which brings about an anesthetic state, which being the case, the anesthetists are ever confronted with the asphyxial problem.

(2) The anesthetic properties of nitrous oxide and oxygen are extremely evanescent, and the patient can pass from complete unconsciousness to consciousness within a minute, which extreme rapidity of induction and elimination makes its administration especially difficult.

(3) Muscular tone is maintained to a much greater extent than it is under either ether or chloroform.

Even with these apparent drawbacks, the profession is awakening to the possibilities of nitrous oxide with oxygen as a producer of the anesthetic state; ignorance and skepticism are giving way

to conviction of its advantages. One of the prime reasons for not employing this mixture more frequently in days gone by was the shortness of its effects, but now anesthetists have become sufficiently skilled in its use to maintain the unconscious state for an indefinite period.

This being the case, this mixture is undoubtedly destined to supplant ether and chloroform to a large extent. It has already found a field of usefulness in the production of unconsciousness in prostate operations where either chloroform or ether would endanger the life of the patient, and in a host of other instances in which a like effect was feared.

CHRONIC GASTRIC ULCER.

CHRONIC GASTRIC ULCER today is recognized as essentially a surgical condition. This is so for more reasons than one. Under medical treatment it tends to persist. It is deeply seated, and even if a cure is apparently effected, breaks down easily. Perforation is by no means a rare complication. If situated near the pylorus, stenosis of that orifice is prone to occur as a result of cicatricial contraction of the resultant scar tissue; but the one condition above all others which renders it a surgical affection is the frequency with which malignancy becomes engrafted on the base of an old gastric ulcer. Owing to the havoc played with the human race by chronic gastric ulcer, it is well that we review the surgical aspects of this malady. The most prominent dangers are hemorrhage, perforation, deformities of the stomach, resulting in obstruction and cancer.

Hemorrhage is frequently associated with surgical gastric ulcer, but is by no means always present. It occurs as the result of an erosion of a vessel of some size at the bottom of the ulcer. It is often an exceedingly serious complication, but as a rule ceases spontaneously and seldom proves fatal. As it displays a marked tendency to recurrence, operation should be undertaken during its quiescent period.

No other treatment, save operation, is of avail for the relief of perforation. Stenosis of pyloric orifice cannot be relieved by medicines, making operation for its cure a necessity.

As a large proportion of gastric cancer arises from the scar of an old ulcer, a material reduction in the occurrence of this awful scourge to mankind would result if chronic gastric ulcer were more frequently eradicated by operative measures.

REPORT OF BOARD OF MEDICAL EXAMINERS OF MARYLAND.

QUESTIONS AT THE DECEMBER (1910) EXAMINATIONS.

PRACTICE.

1. Define (a) Babinski's sign, (b) Kernig's sign, (c) hemophilia, (d) arterio sclerosis, (e) hydronephrosis.
2. Define (a) epidemic parotitis, (b) hematuria, (c) an endemic disease, (d) vocal fremitus, (e) dyspnea.
3. Differentiate (a) hematemesis from hemoptysis, (b) tonic and clonic spasms, (c) pyelitis from cystitis.
4. Differentiate rheumatism and gout.
5. How would you diagnose a case of Bell's paralysis?
6. How would you diagnose a case of infantile paralysis? Give synonym.
7. Give treatment of uremia.
8. Give treatment of angina pectoris.
9. Give treatment of ulcerative stomatitis.
10. Give symptoms and treatment of acute arsenical poisoning.

THERAPEUTICS.

1. Give indications for the use of massage, naming some conditions for which it is applicable.
2. What are the indications for the use of cold? What the contraindication?
3. State conditions calling for the use of alteratives.
4. What are the indications for the use of sulphur? What are the preparations in ordinary use?
5. Give indications for the use of acid carbolic, symptoms of poisoning and chemical and physiological antidotes.
6. Give the therapeutics of aconite.
7. Write a prescription in Latin with four ingredients, the purpose of which is to produce diaphoresis.
8. Write a prescription in Latin, different from the above, with three ingredients, naming the condition which it is expected to relieve.
9. Describe the operation of hypodermoclysis, and give indications for its use.
10. Give the physiological action and therapeutic uses of rheum.

PATHOLOGY.

1. Describe Gram's method of staining.
2. Describe the ameba coli. How would you search for it and how would you recognize it? Name two diseases that are caused by it.
3. What are the general characteristics of a malignant new growth? Of a benign new growth? Name three varieties of each.
4. Describe the formation of an abscess. What is pus?
5. Define hemorrhage, transudate, exudate.
6. What are the gross characteristics of a

pneumonic lung in the stage of red hepatization? What stages or conditions may follow this?

7. What means would you employ to prevent the spread of typhoid fever? What is the characteristic lesion of this disease?

8. What is meant by the term acute nephritis? Describe the histological changes noticed in this condition.

9. Give the morbid anatomy of a hard chancre.

10. Give the cardinal symptoms of inflammation. State briefly the cause of each.

PHYSIOLOGY.

1. What are the two main forms of intestinal movement? Describe each.
2. What is meant by digestion, absorption and nutrition?
3. Locate the following centers: Speech, sight, hearing, taste and the motor area.
4. The blood—(a) Its function, specific gravity, reaction, time of circulation; (b) How is coagulation of the blood hastened or retarded?
5. (a) State what you know of the physiology of the spleen. (b) What effect has the removal on the system?
6. The urine—composition, secretion, daily quantity and reaction?
7. What are reflex and automatic actions? Give examples.
8. What is accomplished physiologically by the portal circulation?
9. (a) What are proteids? (b) What are carbohydrates?
10. (a) Define respiration. (b) What is the condition of the lungs before birth?

ANATOMY.

1. Describe the radius.
2. Bound axillary space and name arteries and nerves found therein.
3. Name muscles of mastication, giving nerve of each.
4. Through what venous channels does the blood pass from the brain to the heart?
5. Describe femoral artery, naming its branches.
6. (a) What are the divisions of the brain? (b) Name ventricles of brain.
7. Give course and relations of Stenson's duct.
8. Describe the trachea.
9. Describe the renal blood circulation.
10. Give origin, insertion, action and nerve supply of gluteus medius, tensor tympani, protractor quadratus and peroneus longus muscles.

CHEMISTRY.

1. Explain the following terms: (a) Nascent state, (b) atoms, (c) valence, (d) isomerism, (e) deliquescence.
2. What is the normal reaction of saliva, and what diastatic enzyme occurs in the saliva?
3. Give one chemical test for (a) blood in urine and (b) albumin in urine.
4. Give the chemical formula of each of the following: (a) Bicarbonate of sodium, (b) sulphate of zinc, (c) acetic acid, (d) Epsom salt, (e) glycerine.
5. Give one chemical antidote for each of the following: (a) Phenol, (b) argenti nitras, (c) acidum sulphuricum, (d) zinci sulphas, (e) potassii hydroxidum.
6. Define (a) amphoteric reaction, (b) specific gravity, (c) hypoacidity, (d) calorie, (e) fractional distillation.
7. Give a reliable test for the detection of free hydrochloric and lactic acids, respectively, in specimens of gastric contents.
8. Give the chemical formula, preparations and use of bismuth.
9. (a) Name the chief constituents of milk, and (b) give the difference between human and cows' milk.
10. Complete the following equations:
 - (a) $\text{Bi} + 4\text{HNO}_3 =$
 - (b) $\text{CuO} + 2\text{HNO}_3 =$
 - (c) $\text{NH}_3 + \text{H}_2\text{O} =$
 - (d) $\text{CaO} + \text{H}_2\text{O} =$
 - (e) $\text{Ca}(\text{OB})_2 + \text{CO}_2 =$

MATERIAL MEDICA.

1. Give the official name of Fowler's solution, Donovan's solution, Lugol's solution, Monsel's solution, Basham's mixture, Brown mixture, Hoffman's anodyne, Spirits of Mindererus and Dover's powder.
2. Name five official preparations of opium and their doses.
3. Name five official preparations of sodium.
4. What are vinegars? Name the official preparations.
5. What are germicides, antiseptics and deodorizers? Name three of each.
6. Of what drugs are morphine, strychnine, codein and pilocarpin alkaloids, and the dose of each of the above named?
7. Ergot—How obtained; the official preparations and doses?

8. From what are diphtheria and tetanus antitoxin prepared? How best administered?

9. What are general anesthetics? Name the three most generally used.

10. Digitalis—How obtained; official preparations and their doses?

SURGERY.

1. Give the indications and technique in detail of nephrotomy.
2. Give the significance of hematuria, of pyuria.
3. Describe spina bifida; its varieties; the diagnosis of each; its treatment.
4. Give the signs and treatment of fracture of both bones of the forearm located at the middle third.
5. Name five dislocations of the hip-joint; their diagnosis and treatment.
6. Describe three methods of suture used in intestinal surgery.
7. Describe strabismus, and give its surgical treatment.
8. Otitis externa circumscripta—furuncle; its etiology, symptoms and diagnosis.
9. Describe the conditions demanding enucleation of the faucial tonsils.
10. Appendicitis—Classification, diagnosis and indications for operation in each type, and contraindications to operation.

OBSTETRICS.

1. Give the signs of pregnancy at third month.
2. Describe the placenta.
3. Give some of the disturbances of digestion and the urinary and the nervous symptoms noted during gestation.
4. Briefly describe the different presentations.
5. What is meant by version? Describe one method.
6. Define phlegmasia alba dolens. Give cause, symptoms and signs, prognosis and treatment.
7. What are the varieties of dysmenorrhea?
8. Give the treatment of acute gonorrhreal vaginitis.
9. Give the symptoms, diagnosis and treatment of hydatid mole.
10. Give treatment of acute infectious diarrhea of infancy.

Summary of Results of Examination Held by the Board of Medical Examiners of
Maryland, December 13, 14, 15 and 16, 1910.

In the above summary an average of 75 is required of those participating in the examination for the first time in order to secure a license. Those who have failed are eligible to re-examination at the expiration of six months. They are then obliged to receive a rating of 75 in each branch in which they are re-examined before license can be issued. Under the Maryland laws, students who, at the end of their second year, have successfully passed their college examination in Anatomy, Chemistry, Materia Medica and Physiology, are entitled to examination by the Board of Medical Examiners in these branches. The ratings made by these students in the examination known as the "second-year examination" are carried forward and made part of the final examination, when an average of 75 must be obtained to secure a license. We trust that this statement will make clear the apparently incomplete examination of certain participants.

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AN EXTENSIVE ULCER OF THE BLADDER COMPLICATING EARLY PREGNANCY.

By *J. M. Hundley, M.D.*,

Clinical Professor Diseases of Women, University of Maryland.

IN August, 1909, Dr. L. J. Turlington, of this city, referred Mrs. R. to me with the statement that her urine contained blood. At her first visit to my office she gave the following history: She is 30 years old and married; has one child three years old; has not menstruated for six weeks; never missed her menses before, except when pregnant; thinks she is now pregnant. About three months prior to this visit she began to have frequent and painful micturition, and one month after the appearance of bladder symptoms she discovered blood in her urine. The blood was small in quantity at first, but now, two months since the first appearance of blood, the urine is black in color from the large quantity it contains. Frequently stringy pieces and clots of blood are seen floating in the urine. The pain is severe on urination, and there is discomfort and aching in the lower abdomen at all times. She urinates every 20 minutes to an hour night and day, and has lost flesh and strength rapidly in the past two months; appetite is poor; family history is good; no history of tuberculosis could be elicited; has never had pain in either kidney region. On physical examination heart and lungs were found normal; pelvic organs normal; uterus large and soft; she is about six weeks pregnant; no evidence of a previous gonorrhreal infection. A specimen of urine was now obtained through a sterile glass catheter, after thoroughly cleansing the mouth of the urethra. Thorough cleansing of the mouth of the urethra is imperative, otherwise the urine may be contaminated with organisms which are always present in that region. This specimen of urine was very bloody; it was examined later for tubercle bacilli with negative results. Cultures were not made of the urine at any time, but several specimens of urine were examined for tubercle bacilli while the patient was under treatment, both by Dr. Walker and myself, with negative results.

A cystoscopic examination was next made of the bladder. The bladder was found very irritable, and there was a quantity of free

blood present, making the examination unsatisfactory; in fact, little, if any, information was obtained at this time. She was given five grains hexamethylenamin every four hours and directed to drink a tumblerful of water with each dose of the medicine.

On August 17, three days after her first visit, a cystoscopy was again made. At this examination a large granulating ulcer, covered here and there with whitish pultaceous masses, was discovered. The ulcer covered both ureteral openings and the intervening space between the openings. The surface covered by the ulcer was more extensive than I had ever seen before. Finding such an extensive ulcerated area in the bladder brought at once the thought, Is this a primary lesion of the bladder, or is it secondary to some disease of the kidney? To determine whether the ulcer was a primary lesion or secondary to disease of one or both kidneys, I attempted to catheterize the ureters and failed. There was so much granulation tissue and active hemorrhage I felt I could not succeed in catheterizing the ureters, so I referred the patient to my friend, Dr. George Walker. I did this because I felt that it was important to decide quickly two points—first, is the ulcer tubercular and secondary to tuberculosis of one or both kidneys? Tubercular ulcer of the bladder is practically always secondary to kidney tuberculosis. Second, if it is either a simple or tubercular ulcer of the bladder, in view of the fact that the patient was rapidly losing ground from the loss of rest due to the pain and frequency of urination, should the pregnancy be interrupted? On referring the patient to Dr. Walker I gave him my views of the case as outlined above, and stated that I wanted his help in deciding on the proper course to pursue. Dr. Walker attempted to catheterize the ureters on three separate occasions (I think it may have been oftener) and failed. He also examined the urine for tubercle bacilli with negative results. After talking the case over we decided that it was right and our duty to terminate the pregnancy in the interest of the mother.

She was sent to the University Hospital on August 25, when I terminated the pregnancy. Incidentally, I wish to state here, though it may be a digression, that for *four* years where the cervix uteri is firm and not dilated or dilatable, instead of attempting a forcible dilatation with steel dilators, I invariably do a vaginal Caesarean section. As a matter of fact, in attempting to dilate a rigid unyielding cervix with steel dilators the cervix is not dilated, but torn. The vaginal Caesarean section can be done easily and quickly in the early months of pregnancy. There is no shock, and the smoothly-incised edges of the wound are sutured with three or four catgut sutures, and healing is primary. There is no formation of scar tissue, as is the case where the cervix is torn and bruised with steel dilators. Three days after the termination of the pregnancy the bladder was irrigated daily with a one to five

thousand nitrate silver solution, and the hexamethylenamin and water previously prescribed was continued. The bladder symptoms improved under this treatment, and the blood was nothing like so abundant in the urine. She left the hospital September 5. From that date to December 15 I made six applications of a 20 per cent. nitrate silver solution through the cystoscope directly to the ulcer. In the intervals between these applications the bladder was irrigated with a 1-5000 solution of nitrate of silver. The ulcer improved rapidly under this treatment, and the patient was discharged well on December 15. The urine was nearly normal at this time, containing only a few leucocytes and bladder epithelium; no red blood cells were present. Tubercular bladder ulcers do not heal under any form of treatment so long as urine containing tubercle bacilli constantly flows into the bladder, as is the case in tuberculosis of the kidney. Knowing this, I have on several occasions, and the case here related is an instance, where I have been unable to exclude renal disease early in the treatment of the case had such rapid improvement in the ulcerated area with the treatment above described as to encourage me to continue the treatment until the ulcer entirely healed. Two or three applications of nitrate of silver will soon determine whether the case is one likely to be cured by such a line of treatment, and when it is found that the improvement is not marked *early* in the treatment, one must proceed to use other means to arrive at a positive diagnosis. It is always best to make a positive diagnosis before beginning any form of treatment, when it can be done.

All ulcers of the bladder are not tubercular. They are frequently due to the gonococcus and the colon bacillus. I have had a case of extensive ulceration of the bladder secondary to a pyonephrosis. The kidney contained a large phosphatic stone. But bladder ulcers from this source are not common. The interesting point in the case herein reported is, What influence did the pregnancy have on the ulcer? The history shows that the symptoms became progressively more acute and aggravated as the pregnancy progressed, and cystoscopy revealed a very angry bleeding ulcerated area in the bladder, with great hyperemia in every part of the bladder. Both Dr. Walker and I felt that the blood supply to the pelvic organs was greatly increased by the pregnancy, and so long as the pregnancy existed this increased amount of blood intensified and aggravated the ulcerative process through the consequent hyperemia of the bladder. The subsequent history of the case proved we were correct in our conclusions, for a few days after the termination of the pregnancy the urgent bladder symptoms began to abate. I regret that a culture was not made of the urine to ascertain the organisms present. A culture should be made in all these cases. In view of the fact that bladder ulcers are frequently secondary to disease higher up in the urinary tract, it is important to keep that point constantly in mind in treating not only ulcers of the bladder, but all grades of cystitis.

THE IMPORTANCE OF DIRECT ENDOSCOPY IN GENERAL MEDICAL PRACTICE.

By John R. Winslow, B.A., M.D.

(Continued from February, 1911.)

ABDOMINAL CAVITY.

Endoscopy of the *pleural cavity* enables us to determine the condition of the pleurae and lung surface, foreign bodies, pleuro-pulmonary fistulae.

Egidi found an intubation tube in the pleural cavity, which had ulcerated through from the bronchus.

Fistulous tracts may be examined for bullets and other foreign bodies and these removed. I have upon several occasions examined the *maxillary sinus* through an illuminated speculum; foreign bodies have been removed in this way.

Endoscopy is as yet in its infancy, its field is ever widening, indeed, so broad is its scope that there are already men who devote themselves exclusively to this work.

My experience in broncho-esophagoscopy dates from February, 1905, when I received a set of endoscopic instruments which I had imported from Germany. Since this time I have employed this method in all suitable cases, as they have occurred in my practice.

My main experience has been in the domain of foreign bodies, yet I have seen numerous other interesting cases, to some of which I invite your attention.

LARYNGEAL PAPILLOMA IN AN INFANT, DIAGNOSED AND REMOVED BY DIRECT LARYNGOSCOPY.

March 22, 1910, Paul D., aged two years, was referred to me by Dr. Homer Hoffman for examination and advice. While a talkative child, he could never speak above a suppressed whisper, and could only be understood by those accustomed to him. From birth up, his crying has been suppressed. He has not and never has had any embarrassment of respiration, and not even upon exertion nor during colds. He is not a mouth breather and has no difficulty in swallowing. His general health is robust, and he presents no evidence of lymphoid hypertrophy.

April 1, 1910, I performed a direct laryngoscopy in Mosher's left lateral position with Jackson's tube-speculum, as modified by Johnston. No anaesthesia was used, but the head was forcibly held in position by Dr. H. C. Davis. I found a growth upon each vocal cord near the anterior commissure; the left one conical, attached to the free edge of the cord and movable; the right one hemispherical and attached to the upper surface of the cord.

Upon phonation the two tumors met, simulating the arytenoid cartilages and causing temporary confusion.

May 27, 1910, I removed these tumors at the University Hos-

pital with Pfau's forceps and my own adaptation of Löris catheter-curet. Patient held in left lateral position by Dr. H. C. Davis and anesthetized by Dr. R. P. Bay with ether vapor introduced through a catheter in nose.

No reaction, child a little tired for a day or so. Tumor proved to be a papilloma. A month subsequently child reported to be talking with a much improved voice. This patient could not have been either examined or operated upon by any other than the direct method.

MINUTE LARYNGEAL TUMOR IN AN ADULT, REMOVED BY DIRECT LARYNGOSCOPY.

February 26, 1910. Fannie W., married, age 27, consulted me with a history of loss of voice for three or four years past. There are periods of clearness, but she becomes hoarse whenever she goes out of doors.

I suspected hysterical aphonia, but upon examination with Jackson's spatula March 11, 1910, I found a round red tumor the size of a small bead on the edge of the right vocal cord near the anterior commissure.

March 16, 1910, I removed this tumor at the Baltimore Eye, Ear and Throat Hospital under cocaine, with Pfau's forceps, the patient being held in the upright position by Dr. G. W. Lautenbach. The voice was immediately restored, and on March 30 no trace of the operation nor the tumor could be detected.

DIRECT LARYNGOTRACHEOSCOPY FOR ASPHYXIA DUE TO FIBRINOUS EXUDATE—CURE.

Some three or four years ago I was hastily summoned by telephone, about 9 P. M., to the University Hospital to see the following case: An infant eleven or twelve months old, in the Hospital ward for some reason unknown to me, but unattended with temperature, was suddenly seized with stridulous breathing and cyanosis.

Under chloroform anesthesia I attempted to perform direct tracheoscopy, but was unable to pass my smallest size tracheoscope beyond the chink of the glottis. I could, however, see on the upper anterior tracheal wall a white conical projection, and passing Killian's long tube-forceps beyond the scope, I seized and removed the object.

This proved to be a membranous exudate, probably consisting of fibrin; unfortunately it was lost in the excitement of the performance. The infant was relieved of its symptoms and discharged in a few days, cured.

This case could not have been examined in any other way, and would have demanded emergency tracheotomy.

LOCALIZED TRAUMATIC TRACHEITIS DIAGNOSED AND CURED THROUGH THE TRACHEOSCOPE.

Saml. T., age 42, referred by Dr. W. S. Maxwell, October 20, 1909. Sensation of fullness just above suprasternal notch;

attributes same to collar button; some difficulty in swallowing, but no regurgitation. Better rather than worse after eating. Duration one year; has not smoked during this period.

Examination. No external lump, trachea sensitive upon pressure above suprasternal notch. Laryngeal movements normal, slight laryngotracheitis.

Ordered 5 per cent. camphor menthol inhalation, with external application of Tinct. Iodi. for home treatment, with no great nor permanent improvement.

Patient returned November 19, 1909, for direct tracheoscopic examination; this was carried out in the upright position at the University Hospital under 10 per cent. cocaine, Dr. H. C. Davis assisting.

The anterior tracheal wall was beet-red, and sensitive upon internal pressure with the tube, over a circular area the size of a quarter. Pressure on this area provoked coughing; no ulceration nor tumor present. An application of 4 per cent. Ag. No. 3 Solution was made through the tracheoscope. Patient returned home to continue inhalations of camphor menthol. Ordered soft, loose collar. Heard two months and ten months subsequently that he is "all right."

DIRECT LARYNGOTRACHEOSCOPY.

June, 1910. Howard B., age 18 years, supposed finger nail located in the trachea; found a scratch on lateral tracheal wall, and slight tracheitis. Cured by a single application of 5 per cent. nitrate of silver solution.

A CASE OF STENOSIS OF THE LARYNX AND TRACHEA DIAGNOSED BY DIRECT LARYNGOTRACHEOSCOPY AND SUCCESSFULLY TREATED BY TRACHEOTOMY, RETROGRADE DILATION AND INTUBATION.

On November 23, 1907, Mary M., an Italian schoolgirl, aged 11 years, entered the University Hospital with the history of increasing dyspnoea for a month or more, and that for several winters she had had similar attacks. She was poorly nourished, under-developed, and could not speak above a whisper. Decided dyspnoea and some cyanosis were present.

November 27, 1907, the patient was anesthetized without difficulty with chloroform. Every preparation was made for tracheotomy, but suspecting that a condition of laryngeal papilloma might be present, I first introduced the direct speculum through the mouth, and discovered that such was not the case, but that I was dealing with an obstructive condition of indeterminate character, below the cords; this was shown by subsequent examination with the tracheoscope to be a fibrous ridge extending obliquely downward from beneath the left vocal cord into the trachea.

The entire larynx and trachea were acutely inflamed, the dyspnoea became so alarming that immediate tracheotomy became necessary. The usual after-treatment of tracheotomy was carried

out and the case was ultimately cured by prolonged intubation, as has been elsewhere reported. On two occasions intubation was done through the direct speculum in the recumbent position, using long dressing forceps to place the tube. This is the first case of the use of this method of intubation of which I can find any record (1907).

DIRECT RETROGRADE LARYNGOTRACHEOSCOPY.

L. C. B., white, age 52 years, suffering from a chronic stenosis of the larynx, necessitating tracheotomy, due to a subchordal infiltration.

Wishing to determine the extent of this infiltration as well as its nature, I inserted a short tracheoscope through the tracheal fistula, under cocaine, in the recumbent position, and found same to be confined to the laryngeal box. I also removed several specimens for pathologic examination, which proved to be inflammatory thickenings.

TRACHEOBRONCHOSCOPY FOR CHRONIC STENOSIS.

F. L., age 24 years, consulted me July 24, 1910, wishing to be relieved of a tracheotomy tube which he had worn for three years past, this having been inserted for the relief of sudden dyspnea following typhoid fever. He was of poor physique, subject to bronchial colds and unable to do physical labor.

Examination of the larynx by the direct and indirect methods showed almost complete fibrous stenosis.

As should be the rule before undertaking any serious operation upon the larynx, I endeavored to ascertain the condition of the respiratory passages.

By enlarging the tracheal fistula I was able to examine the subglottic region, finding that the obstruction extended to this region; and by passing a bronchoscope downwards, ascertained that there was no obstruction of the lower air passages, but merely a chronic tracheitis.

I then undertook a prolonged treatment of the stenosis by intubation, as has been already detailed elsewhere.

DIRECT LARYNGOSCOPY AND DIRECT INTUBATION FOR LARYNGO-STENOSIS.

Feb. 28, 1910, Robert H., age 27, consulted me with the history of a creaky voice and some embarrassment of breathing for about a year past, following typhoid fever; worse lately.

Examination with the mirror showed acute laryngeal congestion and marked stenosis.

The congestion disappeared under appropriate treatment, and on March 3, 1910, I intubated the larynx with the third size tube of the child's set, under cocaine.

March 19 I intubated under cocaine at the University Hospital through the direct laryngeal speculum, using the fifth-size tube.

During March and the early part of April I repeatedly intubated through the direct spatula, at the Baltimore Eye, Ear and

Throat and University Hospitals, until the largest size tube could be easily introduced.

This was assisted by a curettage of the stenosis through the spatula on March 25.

It should be stated that the patient was of small frame and the larynx much below the usual development. At this period the patient was able to breathe freely without an intubation tube.

He disappeared from my observation for several weeks, when I received word that after suffering from severe headache for several days he had become suddenly unconscious. I had him removed to the University Hospital, where he died April 10, 1910.

Autopsy showed tubercular meningitis and acute miliary tuberculosis of the lung.

ESOPHAGOSCOPY.

A woman about 60 years of age was seen last Spring at the University Hospital complaining of sharp pain behind the middle of the sternum, inability to swallow and general weakness. I performed esophagoscopy under cocaine April 10, 1910, in the upright position, and found a tight stricture at a distance of 23 cm. from the upper teeth; this permitted the passage of a probe about 1 mm. in diameter and was subsequently dilated to a caliber of 2.5 mm.

The patient's relatives removed her from the hospital against our protest, and her subsequent history is unknown. The condition was undoubtedly cancerous.

June 23, 1910, I examined the following case, in consultation with Dr. T. Chew Worthington, at the Baltimore Eye, Ear and Throat Hospital. Miss P., aged about 50 years, complained of weakness, malnutrition and some, but not marked, difficulty in swallowing; little pain.

Esophagoscopy under 10 per cent. cocaine anesthesia, recumbent position. A round protuberance was seen just below the cricoid, and just above the cardia a conical protuberance was seen involving about two-thirds of the left ventro-lateral wall of the esophagus. This had a broad base and extended from the cardiac orifice vertically upwards for about three-fourths of an inch. It had a smooth nonulcerated surface and a dense consistence.

Gastrotomy was advised and carried out by the consulting surgeon with fatal result. Autopsy revealed a mass of glandular infiltration corresponding to the upper swelling, and a cancerous tumor at the cardia. General metastasis.

November 4, 1910, Pete W., aged 60, was referred to me by Dr. C. Smink with the statement that he can only swallow liquids, and what he swallows "doesn't reach his stomach," but is immediately regurgitated.

November 4, 1910, I attempted esophagoscopy under cocaine, but found the patient too nervous, and resorted to ether. At a distance of 28 cm. from the upper teeth I found a nodular obstruction, having a minute opening at its upper portion about 1 mm. in diameter. This I dilated with Bunt's bougies Nos. 1

and 2, with improvement in swallowing, liquids being swallowed and retained.

November 8, 1910. I repeated the examination, under ether, and was able to pass a No. 20 Porges bougie. From this time on the patient was able to swallow semi-solids at will, and his general condition rapidly improved.

November 12, 1910, I again dilated the stenosis, using Porges bougies Nos. 27 and 30. From this time on there was no difficulty in swallowing and no further manipulation was called for.

November 16, 1910, the patient began to show signs of broncho-pulmonary irritation and dyspnea, which gradually became worse, and he died November 26, 1910, of asphyxia.

While no autopsy could be obtained, I believe that there was a metastatic involvement of the mediastinal glands and pressure on the bronchi.

At no time during this period was there any difficulty in swallowing.

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THE CARE AND TRAINING OF CHILDREN. By LeGrand Kerr, M.D., Author of "Diagnostics of Diseases of Children"; "The Baby: Its Care and Development"; Professor of Diseases of Children in the Brooklyn Post-Graduate Medical School; Attending Physician to the Children's Department of the Methodist Episcopal (Seney) Hospital; Visiting Physician to the Children's Wards of the Williamsburg Hospital and the Swedish Hospital in Brooklyn, N. Y.; Consulting Physician to the Children's Department of the E. N. Y. Dispensary and to the Immanuel Hospital, etc. New York and London: Funk-Wagnalls Company. Cloth, 75 cents net; by mail, 82 cents. 1910.

The practicing physician will find many useful pointers in this little book concerning the management of the child, such as the child's room, clothing, washing, exercise, schooling, etc.

Although it contains nothing remarkable or new, still the author tells what he has to say in a very few words, and simply. If every practicing physician read it, he would be in a better position to give advice about the rearing of children.

THE MEDICAL AND SURGICAL ASPECTS OF TUMORS, INCLUDING INFLAMMA- TORY AND NEOPLASTIC FORMATIONS.

By Joseph C. Bloodgood, M.D.

(Continued from February, 1911.)

EPITHELIAL CYSTS. (128 CASES.)

These have been situated as follows: In the neck (atheromatous cysts), 32 cases, 2 malignant; ranula, 9 cases, none malignant; dermoids in miscellaneous localities of the skin, 87 cases, 5 malignant.

The remaining epithelial cysts have been included elsewhere, because of the special interest of their localization in a special gland, like the breast, or a special region—jaw or abdomen.

Experience has shown that an epithelium-lined cyst shows the same tendency to develop a carcinoma as the epidermis or the mucous membrane. In this small table 6 per cent. of the atheromatous cysts arising from the congenital branchial cleft and 6 per cent. of the ordinary subepidermal dermoids have been malignant. We have, therefore, evidence for urging the immediate removal of such tumors, and the surgeon must bear in mind this possible malignancy, and before proceeding with the simple enucleation requisite for the benign cyst, he should explore the cyst and definitely exclude carcinoma. I have received two tumors from the scalp diagnosed benign wens, and one from the breast looked upon as a benign dermoid, which proved to be carcinoma. If these cysts had been cut into, I feel certain that the operators in these cases would have become suspicious that they were not dealing with a benign epithelial cyst. The mistake may be made in the other direction. I have had sent to me for diagnosis a very interesting dermoid situated in the temporal fossa. The tumor, which was of large size, was looked upon as a sarcoma, and in removing it the upper jaw and malar bone were resected. If an exploratory incision had been made into this tumor the benign character of the cyst could readily have been interpreted and the wall removed with a less mutilating operation.

The methods of diagnosing an epithelial cyst by the character of its contents and appearance of the wall I have considered in the *Journal of the American Medical Association* (October 30, 1909, Vol. LIII, p. 1475) when such a cyst is situated in the breast.

TABLE II.

BENIGN CONNECTIVE-TISSUE TUMORS.

| | |
|--------------------------------|-----|
| Solid Tumors..... | 384 |
| Angiomas | 141 |
| Hemangiomas | 87 |
| Fibroangioma | 9 |
| Intermuscular angioma..... | 7 |
| Granuloma | 6 |
| | — |
| Lymphangioma | 10 |
| Elephantiasis | 21 |
| Mixed angioma..... | 1 |
| | — |
| Fibromas | 32 |
| Fibroma, pure..... | 28 |
| Fibroma of tendon sheaths..... | 19 |
| Fibroma of abdominal wall..... | 11 |
| Keloid | 42 |
| | — |
| Fibromyxoma | 33 |
| Single tumors..... | 17 |
| Multiple tumors..... | 9 |
| In stump..... | 7 |
| | — |
| Lipoma | 110 |
| Cysts | 30 |
| Lymph cysts of neck | 15 |
| Lymph cysts of thigh | 2 |
| Ganglion | 4 |
| Foreign-body cysts | 2 |
| Blood cysts | 7 |
| | — |
| Total | 414 |

BENIGN CONNECTIVE-TISSUE TUMORS (SOLID). (TABLE II.)

Whether situated in the skin or palpable subcutaneously, the medical aspects are identical. With few exceptions, it is better to remove these tumors. Each has its tendency to become later a sarcoma, and in this period of growth the prognosis after local excision, although good for some types of sarcoma, is hopeless for others, and we have no way, of course, to tell the type.

The tendency of the *congenital nevus* of the skin to become malignant is very much less than of the *congenital pigmented mole*. One should not perform a mutilating excision to get rid of a *hemangioma*, but it would be better, of course, to excise when it can be done without mutilation. For the hemangioma it is perfectly justifiable to try other methods of a cure. For this tumor the treatment by liquid air or carbon dioxide snow has been especially successful.

The interesting *granulation-tissue tumors* which I have classed with hemangioma I would like to emphasize here especially, although I have considered them in detail in my paper before the Dermatological Section. These little tumors which form in the wound after an injury, especially about the nail of the toe or finger, suggest sarcoma. The differentiation with the microscope is often difficult. I have known a toe and finger to be sacrificed unnecessarily because of a granulation-tissue tumor involving the bed of a nail, and on one occasion a surgeon feared that he had sarcoma of the finger, because the granulation tissue which was exuberant in the wound after a simple injury recurred again and again after excision. A careful study of this case revealed the fact that he had received the injury in examining a syphilitic patient, and although the microscopic study of the granulation tissue suggested a small round-cell sarcoma, the lesion healed up under antisyphilitic treatment.

The study of the *fibroma*, whether situated in the skin, tendon sheath or abdominal wall, or as a *keloid* in a scar, is one of great practical interest. In my experience, the majority of tumors of this type are cured by local excision, but now and then a very malignant sarcoma does develop in a fibroma, and, in spite of local excision, the patient dies of metastasis.

The surgical diagnosis of fibroma, fibrosarcoma and chronic inflammatory tumors is a difficult one, and if it is based upon the cellular pathology only, most difficult, because with our present technique of fixation, cutting and staining, there is very little difference in the cellular and intracellular picture of these closely allied lesions. If one, however, has in mind the recorded experience, he will know what treatment will accomplish a cure, and very frequently, in spite of the cellular picture, a somewhat restricted local operation is sufficient. One interested in the details will find them discussed in the papers before the Dermatological and the Pathological Sections.

The relation of the benign fibromyxoma of the nerve sheath to the malignant tumor I have previously recorded (*Transactions of the American Surgical Association*, 1909, Vol. XXVII, pp. 356 and 384).

BENIGN CONNECTIVE-TISSUE CYSTS.

The tendency for a connective-tissue cyst to become malignant is distinctly less than in the epithelial cyst, just as the frequency of this tumor is less—30 cases of the former to 128 of the latter. Among 18 *lymph cysts*, 15 of them situated in the neck and 3 in the thigh, one was malignant; this was situated in the thigh, and could be recognized from the benign lymph cyst by its hemorrhagic contents and the irregularity of its wall. I have never observed any tendency to sarcoma in the *ganglion* or the foreign-body cyst; nor have I seen any such tendency noted in the literature.

Surgeons should be suspicious of *blood cysts*. Of two blood cysts of the cheek which have come under my observation, one was benign, and has remained well since a restricted local excision; the

other was a blood cavity in a perithelial angiosarcoma. The benign cyst has a distinctly smooth wall, the malignant cyst a wall at least 3 m.m. in thickness, composed of ragged friable tissue. In the tongue I have made a similar observation with a benign blood cyst and a perithelial angiosarcoma with a hematoma in the center. Twice tumors considered clinically were situated in the scalp have been excised under cocaine and sent to the laboratory for diagnosis. The cysts contained blood (which is never observed in the benign diagnosis), and the narrow zone of friable, hemorrhagic tissue resembled the malignant cyst just mentioned in the cheek and tongue; both proved to be perithelial angiosarcoma. These four cases were not cured. Whether an operation instituted earlier and made more extensive after an accurate diagnosis would have yielded a different result I am not prepared to say.

BLOOD CYSTS.

These observations led me to investigate how often malignant disease presented itself as a hematoma. I have mentioned my paper of cancer cysts of the breast, and here blood cysts, benign and malignant, are described. In the investigation on bone cysts, which appeared in the *Annals of Surgery*, August, 1910, the significance of blood, especially clotted blood, as evidence in favor of a giant-cell sarcoma, or of the more malignant bone aneurism, and against the benign bone cyst, is clearly proved. I have previously mentioned how the malignant lymph cyst was hemorrhagic in contrast to its more frequent benign prototype. A blood cyst or an organized hematoma, no matter where it appears, should receive careful investigation, and the possibility of a malignant lesion should be absolutely excluded before the conservative operation requisite for the benign lesion is instituted.

PIGMENTED MOLES.

In no other benign tumor is the removal of the growth in its benign state more lifesaving than here. In the paper before the Dermatological Section I presented all the available evidence, and up to the present time among 65 personally observed cases and from the literature I was unable to find any positive permanent cure. There is no doubt, therefore, that the benign pigmented mole of certain type and size should always be removed. The diagnosis of the benign mole is not difficult. To select from the many moles which will be found at the routine examination of patients those that should be excised is a more difficult matter. I would urge that all elevated pigmented tumors of any size larger than a pea be excised, and smaller ones, if they are in a position exposed to frequent trauma. Excision should be the method of removal. Benign pigmented areas should not be tinkered with. A mole can be removed with the knife with a definite zone of unininvolved tissue, and the resultant scar will never be complained of by the patient.

When patients present themselves with evidence of malignant change, which is shown by superficial ulceration and the microscopic picture in the frozen section, I would suggest that surgeons

perform a more radical local operation, combined with a dissection of the neighboring lymphatic glands. This has never been practiced in the past, except when the glands were enlarged; that is, in the late and practically hopeless state. Yet, after such operations, even at such a late period, patients have lived four or five years.

SARCOMA OF THE SKIN.

These tumors were also fully described in my dermatological paper. Sarcoma, arising in the derma proper, is relatively infrequent without a previous history of a benign tumor or a scar. In this group, therefore, the opportunity of removing the tumor in its benign state should not be lost. The 45 cases which I have studied may be classified as follows:

Sarcoma of the skin—

| | | |
|---------------------------|-----------------|----|
| with no such history..... | 8 cases, cured | 1 |
| with no such history..... | 6 " | 0 |
| in scars | 19 " | 16 |
| in fibroma | 7 " | 4 |
| multiple tumors | 2 " | 0 |
| Mycosis fungoides | 3 " | 0 |
| | | |
| | 45 cases, cured | 21 |

Of the 14 cases, with or without the history of a congenital nevus, the one cure was accomplished by an unusually radical operation instituted, however, rather late in the malignant stage. Apparently, the failure to cure in the remaining cases is associated not only with late intervention, but apparently incomplete removal. The type of the tumor in all of these cases was of the most malignant variety—small round-cell sarcoma, with perithelial arrangement.

The prognosis for sarcoma developing in scars or fibroma is relatively good. There are but six failures in 26 cases. The type of the tumor in four cases was of the more malignant variety—round and spindle-cell, and these patients died of metastasis, but in two cases the type corresponded to the less malignant variety—the fibrospindle-cell tumor. The failure to cure these cases was due to widespread local infiltration, due to the long time that the tumor had been allowed to grow before surgical aid was sought.

SARCOMA OF THE SOFT PARTS.

The 54 cases have been classified as follows:

| | | |
|-----------------------------------------|-----------------|----|
| Fibrospindle-cell sarcoma..... | 6 cases, cured | 3 |
| Fibromyxosarcoma | 7 " | 3 |
| Giant-cell sarcoma | 2 " | 2 |
| Spindle-and-round-cell sarcoma | 16 " | 4 |
| Round-cell sarcoma, perithelial..... | 7 " | 0 |
| Lymphosarcoma | 6 " | 1 |
| Psammoma | 1 " | 1 |
| Inoperable, operation refused, etc..... | 9 " | 0 |
| | | |
| | 54 cases, cured | 14 |

We note in the soft parts not only that the relative frequency of the more malignant type of sarcoma is greater than in the skin, but that the proportion of cures among the less malignant type is not as great. This is apparently due to the fact that the concealed subcutaneous tumor does not seem as urgent to the patient or the physician as the skin tumor.

In presenting the relation of trauma to sarcoma I have mentioned the importance of the immediate exploration of a subcutaneous mass. The infrequency of a permanent cure among these 54 cases of sarcoma of the soft parts must be looked upon as evidence favoring earlier intervention. In all of these cases there was an interval of months after the palpable swelling was observed before exploration was requested. In many of these cases the relation of trauma to the swelling was sufficient to urge an earlier intervention.

The surgical aspects are of unusual interest. They embrace the differential diagnosis between the inflammatory and the benign lesion, and between sarcomas of different types. For the fibro-spindle-cell—the fibromyxo—and the giant-cell sarcoma, the local operation may be more restricted than for the more malignant types.

In my own observations, and in the literature, I have found that ossifying myositis—a distinctly benign lesion—has been very frequently mistaken for sarcoma, and amputation has unfortunately and unnecessarily been performed. My colleague, Dr. Finney, has also called attention to this in his paper on myositis before the Southern Surgical and Gynecological Association last December.

LESIONS OF SPECIAL TISSUES.

Muscle.—Although it is true that primary sarcoma of muscle tissue is a very rare lesion—I have never observed a case—yet the sarcoma of the intermuscular connective tissue is relatively frequent. For this reason, when we have a mass, circumscribed or infiltrating, we must bear in mind not only myositis, but sarcoma, and in the very early condition it is difficult, if at all possible, to differentiate. It is true that the bone shadow of the ossifying myositis in the X-ray plate would exclude sarcoma, and the Wassermann reaction would suggest gumma, while the reaction to tuberculin would indicate tuberculosis; fever and a leucocytosis a pyogenic myositis. In many cases, however, early exploratory incision should be made.

I have previously fully discussed my own experience and the literature on the medical and surgical aspects of neoplastic and inflammatory tumors of muscle (*Progressive Medicine*, December, 1902, p. 137; 1903, p. 178; 1905, p. 245; 1907, p. 215, and 1908, p. 167).

Skin.—The neoplastic lesions of the skin have been presented. In this paper we are interested in the inflammatory lesions only in so far as they may represent precancerous diseases. The etiological relation between ulcer, the various forms of dermatitis, tuber-

culosis, chronic inflammatory nodules and lesions about the hair follicles and nails to carcinoma and sarcoma have been mentioned here and in the paper before the Dermatological Section.

Joints and Bursæ.—Neoplastic formations in the synovial sack of a bursa of joint, although relatively infrequent as compared with the larger number of inflammatory lesions, must, nevertheless, be borne in mind at the exploration. It is their infrequency that acts against their early clinical recognition, and at the operation the surgeon not having the tumor in mind may conclude that he is dealing with some rare inflammatory condition. The scanty literature on both subjects I have critically reviewed (*Progressive Medicine*, December, 1899, p. 213; 1902, p. 192; 1906, p. 251; 1908, p. 192).

TABLE III.

BONE TUMORS.

| | |
|------------------------------------------------------------------|-----|
| Benign tumors | 60 |
| Exostoses | 34 |
| Other solid tumors—osteoma, fibroma, myxoma, chondroma | 6 |
| Bone cysts | 20 |
| | — |
| Giant-cell tumors | 22 |
| Periosteal | 3 |
| Medullary | 19 |
| | — |
| Less malignant tumors | 8 |
| Periosteal osteosarcoma | 3 |
| Myxochondrosarcoma | 4 |
| Fibrosarcoma | 1 |
| | — |
| Most malignant tumors | 32 |
| Spindle-and-round-cell sarcoma | 27 |
| Periosteal | 14 |
| Medullary | 13 |
| | — |
| Angiosarcoma | 5 |
| Periosteal | 3 |
| Medullary | 2 |
| | — |
| Sarcoma, clinical diagnosis only | 18 |
| Multiple myeloma | 1 |
| Metastatic carcinoma | 13 |
| | — |
| Total | 154 |

Bone.—Table III shows the relative frequency of the different types of bone tumors. This is a group of tumors to which I have devoted a great deal of attention. In *Progressive Medicine* since December, 1899 to 1909—a period of 10 years—I have endeavored to present a complete critical review of the literature. In 1903 I

described my experiences with curetting for medullary giant-cell sarcoma (*Johns Hopkins Hospital Bulletin*, May, 1903, Vol. XIV, p. 138). In 1904 (*Jour. of Amer. Med. Ass'n*, October 15, 1904) I published my experience with the benign bone cysts. In 1903 (*Jour. of Amer. Med. Ass'n*, February, 1908, p. 325) I presented before the American Orthopedic Association the evidence that favored conservative operations for certain types of bone tumors. In the symposium on cancer before the section on Pathology and Physiology this year I used this evidence with bone tumors to illustrate what constitutes real progress in the surgical treatment of malignant growth.

Bone tumors should be well employed again to illustrate the points that I am attempting to bring out in this paper on the medical and surgical aspects of tumors. Here again we meet the relation of trauma to sarcoma; here we are impressed with the unfortunate results of needless delay; here the surgeon must make his diagnosis at the exploratory incision in spite of the great help of an X-ray, which is not available for soft-part tumors; here we meet the inflammatory, the benign and the less malignant sarcoma, which can be eradicated by a relatively conservative operation, and here most frequently the very malignant sarcoma which kills by metastasis to the lung; after metastasis has taken place amputation at the highest joint would be of no avail.

In the past both physician and surgeon have looked upon amputation as the usual method, and, as Von Mikulicz pointed out many years ago, this view of the profession frightened the laity from seeking advice until pain, pathological fracture or crippling deformity compelled the patient to do so; or, if he did come under medical attention in the early stage when the symptoms were slight, amputation was as a rule refused.

Today I am confident we can say to the public and profession that amputation for a lesion of the bone which is curable at all is rarely necessary, and the more frequently operative intervention is instituted early, the less frequent will amputation become.

Among the bone tumors we encounter two of unusual interest—the bone cyst and the giant-cell sarcoma. These tumors I have discussed before the American Surgical Association (*Annals of Surgery*, August, 1910).

LESIONS OF SPECIAL GLANDS.

The Thyroid.—Its medical aspects predominate, because they consider the relation of hypo- and hyperthyroidism to the thyroid hypertrophy. In the differential diagnosis today there should always be a routine examination of the thyroid gland. Its enlargement may render the search for thyrotoxic symptoms more successful.

The surgical indications for hyperthyroidism in its different forms may be considered well established. Partial thyroidectomy is the operation of choice. When instituted early the operation becomes a simple affair, and has few dangers, if any. But in the

late stage of exophthalmic goitre the surgeon is taxed to the limit of his art and science. Here we need not only an expert in the technique of ligation of the thyroid arteries or partial thyroidectomy, but, perhaps more important, an expert anesthetist. If a patient in the advanced stages of Graves' disease were compelled to choose, I am inclined to think her chances would be best with an expert anesthetist than with a poor anesthetist and an expert surgeon.

The surgery of hypothyroidism is not so well defined in its indications. I venture to occupy space on the medical and surgical aspects of lesions of the thyroid other than tumors, because the hyperthrophies of the thyroid gland, with or without thyreotoxic symptoms of the two types, far outnumber tumors.

In 1905, in presenting a "Clinical and Pathological Study of Cysts of the Thyroid" (*Surgery, Gynecology and Obstetrics*, August, 1905, Vol. I, p. 115) and, later, a similar study of "Adenoma of the Thyroid" (*Ibid.*, February, 1906, Vol. II, p. 121), I demonstrated from my experience the most important medical aspect of asymmetrical enlargement of tumor of the thyroid. Although carcinoma and sarcoma of the thyroid are relatively infrequent, there was not a recorded case of cure among the cases which I studied, nor in the literature, when the operation was performed at a period of the disease in which a clinical diagnosis of a malignant tumor could be made. It seemed evident, then, that to cure a malignant tumor of the thyroid one should make it a practice to remove all asymmetrical tumors of the thyroid when first observed in patients over 30. This rule holds good today, and it is the only reason for advising operation for a small tumor of the thyroid giving no symptoms of a local or general character.

Physicians frequently forget that multiple or single tumors of the neck situated outside of the thyroid area may be of aberrant thyroid tissue. Surgeons in operating for such single tumors have usually neglected to search for the thyroid gland proper, and have been surprised to find after the removal of the single tumor that it was thyroid tissue, and still more surprised to observe later myxedema.

The medical and surgical aspects, therefore, of tumors of the thyroid gland can be expressed in a few words. Extensive dissections for malignant disease need never be performed. They will neither accomplish a cure nor give comfort, and, in addition, in attempting to perform them, we add to the patient's dangers tetany, and to his later discomfort myxedema. The inflammatory lesions of the thyroid need not, therefore, be differentiated from the malignant, because the malignant disease in that stage would be hopeless, while the inflammatory will subside.

The relation between symmetrical and asymmetrical enlargement of the thyroid to puberty, menstruation, pregnancy and the menopause should receive greater attention from the medical profession, and the surgeon should bear this in mind and not resort to operative intervention too early, because enlargements due to,

or associated with, these critical periods of a woman's life usually subside after a short time.

THE SALIVARY GLANDS.

While malignant tumors are the most common lesion of the breast, and hypertrophies the most common of the thyroid, the salivary glands are relatively free from both types of new formation. The most frequent tumor in the region of the salivary glands is the so-called mixed tumor of the parotid. Among 100 lesions of, or near, the parotid, 59 have been tumors of this type; 14 inflammations, and 27 malignant tumors.

I have never observed a permanent cure after the most complete dissection of the parotid and surrounding tissue for a malignant tumor. In two of the cases which I have studied the complete operation had been performed for tuberculosis. These patients were cured, but unnecessarily mutilated by scar and facial paralysis. I now have a record of a number of such cases through personal communications.

When an infiltration of the parotid gland is observed, therefore, suggesting malignant disease, one should never resort to the complete operation until a positive diagnosis has been made, and then it is a question, in my mind, whether it is really worth while. The mixed tumors in the region of the parotid are distinctly benign. It is important to remember that they may be situated in unusual positions. Their most common site is below the angle of the jaw. They may be situated in the cheek, in the parotid gland itself, near the submaxillary or sublingual, in the region of the tonsils, in the hard palate and, in rare instances, behind the parotid gland, producing a tumor palpable in both mouth and neck.

These tumors should be removed when they are first observed and small. It is true that they have very little tendency to malignant change, yet this is possible, and furnishes one indication for early operation; in the second place, if the tumors are permitted to grow, surgical intervention becomes more difficult. When the tumor is situated in its usual position, the greater the size, the greater the risk of injury to the facial nerve at the operation; when it is situated in the less frequent and more accessible region, the more trying the operation for the surgeon.

There is a very important surgical aspect of mixed tumor of the parotid, and I have ample evidence of its correctness. I have seen a number of recurrences after the removal of small mixed tumors. As far as I was able to ascertain, the operation had been one of enucleation. In some 12 cases since then cures have been accomplished by a little more radical local dissection, even when the operation has been a third or fourth resort. Enucleation should never be practiced, except when the tumor is situated in the region of the tonsil or in some of the other infrequent or inaccessible localizations. Here a wider dissection and enucleation may encounter risks greater than that of recurrence.

This tumor has such a thin capsule, and the tissue within the

capsule is so cellular and friable, that during an enucleation by blunt dissection the chances of tearing the capsule and leaving a shred in the wound to grow again would seem possible in almost every case.

THE BREAST.

The medical and surgical aspects of tumors and inflammations of this gland have received so much attention in recent literature that the attitude of the profession has been pretty carefully established. My interest in this subject has been large ("Importance of the Early Recognition and Operative Treatment of Malignant Tumors," *Jour. of Amer. Med. Ass'n*, November, 1906, Vol. XLVIII, p. 1470). "Senile Parenchymatous Hypertrophy of the Female Breast and Its Relation to Cyst Formation and Carcinoma" (*Surgery, Gynecology and Obstetrics*, December, 1906, Vol. III, p. 721). "The Clinical and Pathological Diagnosis of Diseases of the Female Breast" (*Amer. Jour. of Med. Sciences*, February, 1908, Vol. CXXIV, p. 157). "Inflammations and Tumors of the Female Breast" (*Kelly-Noble Abdominal and Gynecological Surgery*, Vol. II, p. 180). "Cancer Cysts of the Breast and Their Relation to Non-malignant Cysts" (*Jour. of Amer. Med. Ass'n*, October 30, 1909, Vol. LIII, p. 1475).

In the introduction I have emphasized the most important medical aspect—that every mass in the breast of a woman over 25 years of age should be looked upon as an acute disease and explored. The surgical aspects have also been discussed. The diagnosis must be made at the exploration, and when the disease is cancer there should be no compromise with the radical operation.

The medical profession should know that at puberty one breast may develop more rapidly than the other; this might be confused with tumor formation. In the breasts of girls at or after puberty single or multiple nodules may appear. There is no indication to operate upon these, unless one or more tumors grow and give discomfort.

There are other symptoms besides tumor or mass with which the profession should be familiar, in order to properly interpret them. Now and then retraction of the nipple or dimpling of the skin will be observed before the tumor. This is a positive sign of cancer—do not wait for the tumor.

Unilateral ulceration of the nipple in a non-lactating breast without a history of injury or lues is probably Paget's disease. This should be treated as cancer; there is always a malignant tumor somewhere in such a breast.

Discharge of blood from the nipple without tumor formation is not of itself an indication for exploring the breast. If a tumor can be felt, it is this sign, and not the discharge of the blood from the nipple, that indicates the operation. One will always find a cyst with a papilloma, and it becomes the responsibility of the surgeon to differentiate the benign from the malignant cyst. Here it is not inappropriate to bring out some of the surgical aspects of cysts.

A blood cyst without a papilloma within its wall to explain the hemorrhage has, in my experience, always been cancer. A smooth-walled cyst with clear or slightly cloudy fluid has always been benign. The differentiation of the malignant papillomatous cyst from the benign is more difficult. Pain, without tumor, is not an indication for operation. When the tumor in its very onset is painful and tender, this suggests a benign lesion. The experience of pain after the tumor has been present some weeks or months favors malignancy.

Although I have dwelt upon lesions of the breast during pregnancy and lactation in my paper before the Section on Pathology and Physiology, I take this second opportunity to emphasize the importance of a different attitude toward a mass in the breast of the pregnant and parturient woman. In the first place, and most fortunately, malignant disease here is rare, and it is probably for this reason that, when it does begin, it is looked upon as mastitis.

During pregnancy any lesion of the breast is very unusual. Now and then a benign tumor has been observed before pregnancy. This tumor enlarges with the breast, and, if removed, shows the lactation hypertrophy corresponding to the time of removal. In a few instances the first appearance of the benign tumor has been after pregnancy had started. It is impossible to differentiate such a benign tumor from a malignant one, except at exploration. It is my decided opinion, therefore, that the appearance of a mass in the breast of a pregnant woman should immediately be explored.

After the birth of the child and up to the fourth month of nursing the most common lesion is lactation mastitis. For this reason it is quite proper to look upon the "eaked" breast as an innocent inflammatory lesion. However, a mastitis should do one of two things—form an abscess or disappear. The operation for abscess need not be discussed. But if the mass does not disappear after a short time, say three weeks, it should be explored. Chronic lactation mastitis is rare, but possible; the mass may be tubercular or carcinoma. I have observed cancer in the lactating breast 10 times—in every instance first treated for mastitis and with massage; in every one of these cases the operation was performed after the disease was clinically malignant. There has been one cure. Massage should never be practiced during lactation. It is harmful for mastitis, and worse if the mass be carcinoma. After the fourth month lactation mastitis is so rare that the appearance of a mass should be looked upon with grave suspicion, and the breast explored very promptly.

LYMPHATIC GLANDS.

The problem is very much the same whether the glands are situated in the neck, axilla or groin. In the cases of which I have careful notes, and as far as I have investigated in the literature, all of the malignant tumors arising in the lymphatic glands are practically hopeless. For this reason it is always justifiable to remove a gland for diagnosis before subjecting the patient to operation.

There is one lesion in the neck which must be differentiated from the primary malignant tumors of the lymphatic glands, and that is carcinoma of the branchial cleft. This winter I presented before the John Hopkins Medical Society a study of 23 such cases. I call attention to two in which the lesion had presented itself as a cyst or an abscess. The failure of the surgeon to think of this possibility at the operation and to carefully inspect the wall of the abscess or the cyst led to a postponement of the correct diagnosis until the recurrence of the disease revealed its malignancy. In the remaining 21 cases the tumor was allowed to grow until it was distinctly malignant.

This malignant tumor arising from the branchial cleft is situated in the beginning behind the upper portion of the sternocleido-mastoid muscle below the parotid gland, and cannot, in the early stage, be told from the enlargement of a lymphatic gland. I would urge the more frequent early exploration of single nodules in the neck, so that we may have the opportunity to perform a radical operation for cancer of the branchial cleft in its early stage. My results show that this should be attempted even in the later stage; even if the patients are not cured, they are more comfortable. This radical operation should consist of temporary clamping of the common carotid above the clavicle, division of the sternocleido-mastoid muscle, ligation of the internal jugular and a clean dissection of the neck, removing the muscle and vein with the tumor and other dissected tissue.

It is because of this tumor that I urge early exploration. There seems little hope in the treatment of Hodgkin's disease and sarcoma. With Mr. C. C. Cody of the graduating class I have carefully investigated the clinical and pathological picture of 33 cases of Hodgkin's disease and 32 cases of sarcoma. There is only one way to make the differential diagnosis in the early, and sometimes even in the very late stage, and that is by the excision of one gland. And even after this gland is carefully sectioned and stained, the cellular pathology is often difficult to correctly interpret.

The medical and surgical aspects of lesions of the lymphatic glands in the groin, axilla and neck form a very important chapter. As all the problems are not as well established here as in the lesions of the breast and others discussed here, I shall leave this subject for a second paper. It would be difficult in the allotted space to present the questions properly.

LESIONS OF SPECIAL REGIONS.

The Jaws.—The medical and surgical aspects of the connective-tissue tumors arising from the periosteum or the medullary cavity of the jaws do not differ from those of the long bones that have been considered. In fact, the relative proportion of curable tumors is greater in the jaws than in any other bone, because here we meet tumors of dental-residue origin. Among 112 of the less malignant and curable lesions of the jaws 40 were of dental origin, 19 benign

dentigerous or dental-root cysts, 21 cystic or solid adamantine epithelioma. In the beginning of the disease a differential clinical diagnosis is not possible, and it is very important to explore. Both the dentigerous cyst and the adamantine epithelioma can be recognized. Drainage is sufficient for the cyst, while for the adamantine tumor a rather restricted operation is all that is necessary. All of these 21 cases, as far as I have been able to ascertain, have remained well. The tumor does not tend to infiltrate beyond its bone or connective-tissue capsule. I have never found metastatic areas in the neighboring lymphatic glands. I am confident that, unless surgeons are quite familiar with this tumor, they will incline to look upon it as a spinal-cell carcinoma and, in the attempt at a cure, perform unnecessary radical and mutilating operations.

When I began to investigate the cured cases of carcinoma of the mucous membrane of the upper and lower jaw I was surprised to find three permanent cures of tumors of such a size that if they had been carcinoma spinocellulare, a cure, from experience with other cases, could not have been expected. Now, when these cases were restudied pathologically, the tumors proved to be adamantine epitheliomas, and the glands removed did not show metastasis.

The most frequent and, fortunately, also curable lesion of upper or lower jaw is the epulis (50 cases, as compared with 40 of dental origin). The other lesions of the jaw which, in my experience, have been curable are as follows: *Ossifying periostitis* (4 cases) to be distinguished from *osteosarcoma* (3 cases), because in the former resection is not indicated, while in the latter it is. The relatively benign fibrosarcoma (11 cases) occurs in the antrum of the upper jaw, and as a periosteal or, very rarely, central tumor of the lower jaw. I am confident that for this fibrosarcoma, whatever its situation in the upper or lower jaw, a cure can be accomplished without total resection of the upper or lower jaw. In the few cases in which I have removed the tumor without destroying the continuity of the jaw the results have been as permanently good as in those cases in which the operation had been more extensive and mutilating. The same conclusions follow in the study of *giant-cell sarcoma* in the body of the lower jaw (3 cases). In all of these cases total resection was employed. I feel justified, from the experience with giant-cell sarcoma elsewhere, to advise that curetting should be the operation of choice.

The story of 38 cases of more malignant tumors of the upper and lower jaws is a pitiable one. Here we have 26 carcinomas of the antrum and 12 spindle-and-round-cell sarcomas involving the periosteum of the lower, or the antrum cavity of the upper, jaw, and not a single permanent cure, in spite of the most radical procedure. With this evidence one should never proceed with the radical removal of the upper or lower jaw unless the diagnosis of a spindle-and-round-cell sarcoma or of a carcinoma of the antrum is made, and surgeons must be familiar with the curable tumors and with the extent of the local operation required to accomplish this cure.

While my table shows 150 tumors of the upper and lower jaws proper, Table I shows 40 carcinomas of the mucous membrane of the gum or hard palate, and as these malignant epithelial ulcers so quickly involve the bone, they are, for practical purposes, jaw tumors. Among these 49 cases only 7 were of the less malignant type; 2 benign warts, 3 malignant warts and 2 basal-cell tumors. *A priori*, therefore, an epithelioma of the mucous membrane in the region of the jaws is the most malignant type. My experience justifies an attempt at a most radical operation—excision of the ulcer with a wide zone of mucous membrane, a large piece of bone; if the ulcer involves the upper jaw, there should be continuous dissection of the entire thickness of the cheek down to the neck, and the usual complete removal of the glands of the neck. When the ulcer involves the lower jaw with the bone and the glands of the neck, the corresponding area of the floor of the mouth should be removed.

In view of such an extensive and mutilating dissection, which is the only treatment for carcinoma spinocellulare, the importance of a differential diagnosis from an adamantine epithelioma or a benign ulcer or epulis is obvious.

The surgical problems of tumors and inflammations in the region of the jaws are therefore varied in their practical significance, and I have considered them in detail in "Surgical Diseases and Wounds of the Jaws" (*Bryant and Buck's American Practice of Surgery*, Vol. VI, p. 813).

I am confident that lesions of the jaws can be recognized earlier, and much can be done along the line of prevention. Good dentistry, with the preservation of the teeth in good condition, will, I am sure, reduce the number of carcinomas of the mucous membrane of the gum. The relation of jaw tumors in general to bad teeth is well brought out in the frequent occurrence of all jaw tumors in the colored race. In this region only, as compared with all the other localizations of tumors, the number of colored individuals affected equals that of the white. Bad teeth are the rule in the negro.

Swellings of the alveolar border of the body of the jaw proper and any bulging of the walls of the antrum should immediately be investigated. Nothing is gained by waiting for pain and further development, but how infrequently are surgeons given the opportunity to see the diseases in this period. The delay apparently does not affect the individual suffering with curable tumors. The chief loss by this delay is that the curable disease, having involved more bone, requires a more mutilating operation to accomplish its eradication. Whether by very early intervention we shall succeed in accomplishing cures in the cases of more malignant sarcoma and carcinoma of the antrum I am not prepared to say.

Before closing the remarks in relation to the jaws I would like to call attention to the frequency with which subacute and chronic inflammatory lesions of the upper and lower jaw secondary to caries of, or infections about, the teeth give rise to an infiltrating

mass that suggests malignant disease. I would caution against treating such a suspicious mass as malignant until definite proof had been offered by microscopic study. If any doubt remains, treat the lesion as an inflammation, because experience has shown that a malignant tumor of this kind would be incurable, while the inflammatory tumor will subside under less radical treatment. I have notes on six such cases; all were treated as inflammations, although the clinical evidence, and in some the frozen section, suggested a sarcoma of the cellular type. All of these patients have recovered and remained well.

The question of the early symptoms and the surgical diagnosis and treatment of orbital, intranasal and nasopharyngeal tumors are so fully dealt with in my paper before the Section of Pathology and Physiology that I will not repeat here.

STOMACH.

The medical and surgical aspects of tumors and inflammatory lesions of the stomach would require entirely too much space to justify their consideration in this paper, but in this region, in both the medical and surgical aspects, we have new problems. The lesion is concealed, and the question is, What is the minimum of symptoms that justifies exploration of the stomach? Apparently, today no one questions what is to be done if the maximum of symptoms is present. Physician and patient, in consultation with surgeons, must decide on the minimum of symptoms. When the abdomen is opened the problem is strictly a surgical one. What is the best treatment for ulcer in the different localizations? Can callous ulcer be diagnosed from cancer? If in doubt, shall resection be performed?

Kocher, in studying his 25 years' experience with ulcer and cancer of the stomach, found that his cured cases of cancer were freely movable tumors in the region of the pylorus which had produced obstruction, and, therefore, brought the patient earlier to operative intervention. In all of these cases there was absence of HCl and diminished acidity—not very frequent growths, therefore, but yet of much shorter duration than similar lesions situated elsewhere in the stomach, where they did not produce obstruction. Among his cured cases there was but one scirrhus carcinoma; the remainder were adenocarcinomas.

We know, therefore, today pretty well what cancer of the stomach can be cured by resection. For this reason any freely movable tumor in the region of the pylorus or greater curvature of the stomach should be resected—it gives the patient with cancer of the stomach the only hope, and is, as a matter of fact, the best treatment for ulcer of this type. I have called attention to the general opinion that ulcer and cancer of the stomach have a close relation to each other, and that for this reason an ulcer of the stomach should be made to heal quickly, in order to prevent the later development of cancer. Even if this close relationship between ulcer and cancer of the stomach did not exist, I think that

the conclusion based on the assumption of this relationship would still hold good.

LARGE INTESTINE.

Mr. Cody has been assisting me in a careful investigation of 112 lesions of the large intestine, of which 55 were malignant tumors. This study is by no means completed, but one very important medical fact was brought out. Of the 53 cases of cancer, 36 came to surgery on account of symptoms of obstruction; 29 of these cases were operable, and most of them curable. In 17 cases there were no symptoms of obstruction, but the patients sought advice on account of painful tumors (in only 8 was the condition operable, and not a single cure was accomplished). It is fortunate, therefore, for a patient with carcinoma of the colon to have a tumor which produces obstruction. But what are we to do with the smaller group? What is the minimum of symptoms that justifies the exploration of the colon in order to subject non-obstructing cancer to operation earlier?

The medical and surgical aspects of tumors inflammatory and neoplastic situated within the abdomen, therefore, present a new set of questions somewhat different from tumors of the skin, bone, breast, etc., as discussed in this paper, but the limits of this address are already exceeded.

Book Reviews.

TREATISE ON DISEASES OF THE SKIN. For the Use of Advanced Students and Practitioners. By Henry W. Stelwagon, M.D., Ph.D., Professor of Dermatology in the Jefferson Medical College, Philadelphia; Dermatologist to the Howard and Philadelphia Hospitals; Consulting Dermatologist to the Pennsylvania Institution for the Deaf and Dumb, to the Pennsylvania Institution for Feeble-Minded Children and to the Widener Memorial Training School for Crippled Children; Member of the American Dermatological Association; Honorary Member of the Society of Dermatology and Syphilography of Italy; Associate Member of the Society of Dermatology and Syphilography of France, of the Vienna Dermatological Society and of the Berlin Dermatological Society. Sixth edition, thoroughly revised, with 289 illustrations in the text and 34 full-page colored and half-tone plates. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$6; half morocco, \$7.50 net. 1910.

For years Stelwagon's has been a standard book on the skin. The present volume is destined to maintain the popularity of its predecessors, for it is gotten up in the identical thorough and attractive form. As in the previous editions, there is an excellent balance between the amount of space given to etiology, diagnosis

and the treatment of the various disorders, thus rendering the present issue as useful as its predecessors. The section on pellagra has been entirely rewritten. He summarizes, concerning etiology, thus: One may be justified in saying that as yet the aggregate observations and experimental investigations are still lacking in conclusiveness as to the true and essential cause of the disease. It seems not unlikely, from its ensemble of symptoms and its analogy to other protozoal infections, that its cause may be found in protozoal organisms, a view suggested several years ago by Sambon and recently by several American observers, especially Siler and Nichols. He states that there are no specific remedies, the essential management consisting in placing the patient in good hygienic surroundings and improving the general health by nourishing food. Arsenic and iron preparation are the remedies upon which most support has been placed, atoxyl has been lauded, and in several instances transfusion of blood cured the patient. Sporotrichosis is fully presented for the first time. Among the other additions are articles on grain-mite dermatitis, the dermatitis due to the brown-tail moth, gangosa, tropical ulcers, ulcerating granuloma of the pudenda, granuloma annulare, lichens nitidus, etc.

In other ways one notes an added attractiveness to the book. The illustrations are more numerous, better executed, and, as a consequence, more helpful; the treatment is fuller, and in some instances materially different from that recommended in former editions.

The book is a notable example of book-making, and a model to be followed by other progressive writers. To the commoner forms of skin affections is the most attention given, but the rarer forms are sufficiently considered to well round out the book. This volume should be more popular than ever.

PRINCIPLES OF THERAPEUTICS. By A. Manquat, National Correspondent to the Academie of Medicine. Translated by M. Simbad Gabriel, M.D. New York and London: D. Appleton & Company. 1910.

Realizing that physicians have for time immemorial looked upon therapeutics as a comparatively non-scientific branch of medicine, the author has shown in this volume that this is far from the truth; that, properly considered, therapeutics is an exceedingly scientific branch of medicine, but students and practitioners have paid very little attention to the scientific aspect, so do not practice it with scientific precision. In order to combat this state of lethargy towards therapeutics the author has embodied in the present volume his observations with the intention of setting the profession aright. He gives the ancient origin of therapeutics and traces its evolution through the various ages to the present time. In the introductory remarks are to be found the obstacles to the progress of therapeutics. In this category he lays especial emphasis on inadequate instruction. The evolution of therapeutics as outlined corresponds to three well-char-

acterized tendencies. During the primitive period endeavor is limited to the empirical treatment of disease. After years of observation this period has gradually passed into the scientific, which is still further subdivided into physiological and micro-biological therapeutics. Considerable space is devoted to the forms of therapeutic action, to the actions of medicines, doses, medicinal opportunity, elements of therapeutic individualization, influence of environment, variations of therapeutic activity, division of therapeutic agents, etc. Certainly the subject has been treated in a thoroughly novel manner and casts a new conception over the field of therapeutics.

HYDROTHERAPY. A Work on Hydrotherapy in General, Its Application to Special Affections, the Technic or Processes Employed and the Use of Waters Internally. By Guy Hinsdale, A.M., M.D., Secretary of the American Climatological Association; Lecturer on Climatology in the Medico-Chirurgical College of Philadelphia; Fellow of the College of Physicians, Philadelphia; Corresponding Fellow of the Royal Society of Medicine of Great Britain, Balneological and Climatological Section; and of the International Antituberculosis Association; Ex-President of the Pennsylvania Society for the Prevention of Tuberculosis; Member of the American Neurological Association and of the American Academy of Medicine. Octavo of 466 pages. Illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Company. 1910. Cloth, \$3.50 net.

Though the value of hydrotherapy was recognized in the very remote past, it has only been within the last fifty years that this very important branch of medicine has been put on a scientific basis and its proper place as a therapeutic agent definitely determined. Even today there is a great dearth of knowledge among the profession as to its scientific application, consequently a book such as the above is an extremely welcome addition to medical literature, as it provides in condensed and readily accessible form the very latest status of the use of water, both externally and internally. There is not a scintilla of doubt that medicine has run too much to the giving of drugs to the detriment of such useful and harmless remedies as exercise, diet, hydrotherapy, psychotherapy, electricity, massage, etc. Therefore any literature which tends to draw the professional mind to the possibilities of these much neglected phases of treatment is indeed to be greeted with much gratification by the therapeutic nihilist.

The several kinds of baths and their uses are thoroughly described in an entertaining and profitable manner. The action of saline as compared with fresh-water baths receives due consideration, as well as the influence of baths on metabolism, effects of cold baths on metabolism, quantitative estimation of the amount

of heat loss, effects of hot baths on metabolism, effects of cold and heat upon the respiration and the action of the heart. The use of water both internally and externally in a number of affections is thoroughly discussed, such as in typhoid fever, scarlatina, uremia, sprains, etc. The Nauheim and Schott Treatment is given at length. In fact, no aspect of hydrotherapy is slurred, and the reviewer believes that every physician will use water more rationally after carefully reading the pages of the above-mentioned book.

A HANDBOOK OF PRACTICAL TREATMENT. By Many Writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania. Volume I. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Company. 1911. Cloth, \$6.00 net; half morocco, \$7.00 net.

The list of contributors to this system bespeaks its thoroughness and practicalness. Among the writers in this volume may be mentioned David L. Edsall, Professor of Medicine in the University of Pennsylvania; Richard C. Cabot, Assistant Professor of Medicine in the Harvard Medical School; Alexander C. Abbott, Pepper Professor of Hygiene and Bacteriology in the University of Pennsylvania; John H. Musser, Professor of Clinical Medicine in the University of Pennsylvania; James Tyson, Emeritus Professor of Medicine in the University of Pennsylvania; Ludvig Hektoen, Professor of Pathology in the Rush Medical College, in affiliation with the University of Chicago; Joseph Colt Bloodgood, Associate Professor of Surgery in the Johns Hopkins University, and George Dock, Professor of Medicine in the Washington University Medical School, St. Louis.

The present volume is an octavo of 909 pages, is profusely illustrated and is devoted to a discussion of therapeutic measures from a general viewpoint. The fundamental principles of therapeutics, preventive medicine, the general principles of dietetics, the dietetics of infancy, the general principles of drug treatment, the general principles of serum therapy, the general principles of organotherapy, the rest cure, the work cure, and psychotherapy. Exercise, massage and mechanotherapy, hydrotherapy and balneotherapy, climatotherapy and health resorts, the general care and management of the sick and the treatment of slight ailments, etc., subjects generally neglected by the general practitioner, and with which he has at the best only a slight knowledge, are here to be gotten in condensed form from the pens of eminent specialists.

The article by Edsall on dietetics is particularly illuminating and well worth careful reading and digestion. Until recently dietetics have been on a very unscientific basis. The physician told his patient to refrain from this and that item of diet without

much thought as to what would happen by the deprivation of the particular class of food proscribed. Milk has been and is the great sick diet, and perhaps one of the reasons we have such good results with it in fevers is that it is very low in protein, therefore does not overtax the digestive system, but as this writer says, and truly so, the food value of milk is such that the normal man would require about three and a half quarts to furnish sufficient total energy, or about five and a half pints to furnish the required protein. There is no doubt that there should be a nicety of balance between the various elements entering into food. Too much or too little of any one will in time result in some derangement of the body metabolism. But it is in disease that we are chiefly concerned with diet, and especially so in renal and hepatic affections. This the writer does not touch at all, and to the mind of the reviewer it is absolutely essential for the dietician, if he feeds his patient scientifically, not only to know what is ingested, but what is excreted by the kidney. Certainly if 100 grams of protein is permitted a nephritic, and on testing the nitrogen output of the kidneys this is found to be 15 or 20 grams of urea, the patient is being given a food too rich in protein. On the whole, however, we were particularly impressed with Edsall's article, especially as it is along corrective rather than medicinal measures, and thoroughly believe that many of the ills of today will, when better understood, be found to yield to a properly restricted diet.

As a matter of fact, the whole of the first volume practically is given over to air, water, climate, diet, exercise, and non-medicinal remedies. The world is only beginning to learn what can be done without medicines, and anyone who is desirous of learning what has been accomplished so far along these lines will be more than gratified by these pages.

THE BLUES. SPLANCHNIC NEURASTHENIA. CAUSES AND CURE.

By Albert Abrams, A.M., M.D. (Heidelberg), F.M.R.S., Consulting Physician, Denver National Hospital for Consumptives, The Mount Zion and the French Hospitals, San Francisco; President of the Emanuel Sisterhood Polyclinic; formerly Professor of Pathology and Director of the Medical Clinic, Cooper Medical College, San Francisco. Illustrated. Fourth edition. Revised and enlarged. New York: E. B. Treat & Company. 1911. Cloth, \$1.50 net.

In this volume the author directs attention to a new form of nerve exhaustion which he designates Splanchnic Neurasthenia, which, according to the writer, is characterized by paroxysms of depression popularly designated the blues. He attributes it to a congestion of the intra-abdominal veins, and summarizes the symptoms thus: The dominant symptoms of splanchnic neurasthenia are resident in the nervous system. Many splanchnic neurasthenics are never cognizant of abdominal symptoms; the latter being usually elicited by the physician in the course of his examination. The chief abdominal symptoms are abdominal sensitive-

ness, tenderness of the liver and enlargement of that organ and gaseous accumulations in the bowels. In splanchnic neurasthenics the relief of symptoms almost positively follows relief of the venous abdominal congestion. Splanchnic neurasthenia is specially encountered in individuals with vigorous constitutions. As treatment, the writer recommends abdominal massage, abdominal exercises, respiratory exercises, electricity, abdominal supporters and hydrotherapy. Cathartics, the author claims, are deleterious in this class of cases and should be avoided, as they induce an increased blood supply to the intestines, and thus augment the symptoms. The book is worth a careful inspection by those interested in so-called neurasthenia.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL,
MAYO CLINIC (1905-1909). Philadelphia and London: W.
B. Saunders Company. Baltimore: Medical Standard Book
Company. 1911. Cloth, \$5.50 net.

This volume is a collection of the papers by the staff of St. Mary's Hospital, popularly known as the Mayo Clinic, Rochester, Minnesota. It is, indeed, a rare treat to have these papers by such eminent authorities under one cover, and the Saunders Publishing Company is to be congratulated on their good fortune in being the lucky publishing house. Here are to be had at first hand the writings of those eminent surgeons, Drs. Charles H. and William J. Mayo, together with a goodly quantity of papers by members of the staff, namely, Henry G. Andrews, Beckman, W. F. Brasch, H. Z. Giffin, Christopher Graham, Donald Guthrie, M. S. Henderson, E. S. Judd, William C. MacCarty, Alice McGaw, H. S. Plummer, Louis B. Wilson.

All that goes to make the Mayo Clinic famous is embodied in this volume, and a complete index prepared by the publishers renders the book doubly valuable, for there is now no need of searching out the literature for such and such a procedure. One will merely have to turn to his book shelf, and within a few seconds can place his hands on the information desired. The cuts are magnificent and in themselves are well worth the price of the book. The press work is well executed and the papers excellently arranged. The medical world is indeed fortunate in being able to get possession of these monographs in such a form, and owe the Saunders Company a debt of gratitude for persuading the authors to permit their contributions to be collected and published in volume form. There is no need of singling out any particular article for a detailed comment, as all are acquainted with the character and scope of the work done at Rochester. This work has stood the test of time. Besides, the authors speak with authority, for they have had more experience in certain lines of endeavor than any other American surgeons or physicians. As much of the material contained therein is of a pioneer character, the book is assured of immediate popularity, and we make the prediction that the issue will be soon exhausted.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, MARCH, 1911

MOBILIZATION OF ANKYLOSED JOINTS BY OPERATIVE MEASURES.

Ankylosed joints have been the bane of the surgeon from time immemorial, and even today one of the most difficult tasks a surgeon has to perform is to make movable a stiff joint. Even now, with improved methods of technic and a greater knowledge of the subject, the operator is compelled to admit that he has failed to accomplish his purpose. Murphy was the pioneer in this line of work in America, and has reported some very remarkable cures. The underlying principle in the treatment of a stiff joint is the separation of the ankylosed surfaces and the interposition of a foreign material between the articular surfaces thus created. The adherent joint ends are separated by arthrotomy or resection, followed by the interposition of either a dead organic membrane or the transplanting of a pedicle of living tissue from an adjacent soft part. Of course these methods are not applicable to every form of ankylosis. It is not indicated in multiple ankylosis, and if applied, the joints should be attacked at intervals, and is certainly contraindicated in the multiple arthropathies, such as rheumatic gout, arthritis deformans, etc. Yet even with all the contraindications and exceptions which can be marshaled against the method there are still a large number of stiff joints which call for this line of treatment, e. g., those following fractures. It is especially in this form of immovable joint that the greatest benefit has followed the employment of the breaking up of the ankylosis with the interposition of either a foreign animal membrane or the soft tissues from the individual.

According to Payr the operative treatment may be divided into three phases: the exposure of the affected joint, the separation of the ankylosed parts, the measures to prevent reankylosis. This authority believes this object is best subserved by the interposition

of living tissue. Murphy also prefers living tissue to a dead membrane. The flap may be muscle, fat, tendon sheath or synovial membrane. Any one of these tissues answers the purpose very well, but as a rule the flap is composed of muscle and fat. The operator must be careful to securely attach the flap so that it thoroughly covers the raw end of the bone, else ankylosis may recur, and to prevent its displacement when the joint is moved. Mayo's operation for the cure of bunion is based on this principle.

Good results depend greatly on the after-treatment. When the skin has healed, passage motion should be instituted. Massage and electricity exert very beneficial effect. The chief factors entering into failure are infection and the tearing away of the interposed soft pad. This operation has given excellent results in the hands of those who have resorted to it, and there is no doubt that it marks a distinct advance in bone surgery. For what is a patient or his friends more grateful than the restoration to function of a disorganized joint? The operation reflects great credit on surgery and even greater satisfaction to the patient.

THE ACTION OF DRUGS.

FEW drugs have attained more popularity lately than calcium salts, but according to Dixon, *The Lancet*, if a calcium effect is really indicated it must be injected under the skin. The same authority has also determined that if the specific effects of potassium and ammonium are to be expected, they must be administered hypodermically, since they are eliminated more rapidly than absorbed. He also found the local action of opium or its derivatives of little value in relieving local pain, since the seat of action of opium is on the central nervous system. The writer also derides our conclusions concerning the tonic properties of quinine. He finds it to be just the opposite, and to possess rather an atonic effect, as it was a poison to all protoplasm and hindered metabolism. There is no doubt that physicians will in the near future be compelled to change their ideas concerning the value of many of our standard drugs. The pharmacological laboratory is pointing out our many erroneous concepts regarding the value of such and such a preparation, and from experiments being performed therein a new pharmacopeia is being evolved.

Medical Items.

THE Executive Committee of the Maryland Association for the Prevention and Relief of Tuberculosis will present a bill to the next Legislature asking for a bond issue of \$300,000 to cover the cost of erection of a new municipal hospital for the care of advanced cases of tuberculosis.

A BANQUET was given to Dr. William H. Howell at the Belvedere Hotel by a number of Baltimore physicians and scientists.

DR. H. G. BARRETT entertained the members of the Craftsman Club of the College of Physicians and Surgeons at dinner at the Lexington Hotel on February 14. Among those who answered to toasts were Drs. William H. Hobson, W. P. Morrill and Charles F. Blake.

DR. J. WHITRIDGE WILLIAMS has resigned as president of the Johns Hopkins Alumni Association.

THE Baltimore General Dispensary has purchased a lot 25x61 feet on the corner of Paca and Fayette streets, and will erect a handsome two-story structure. Architect George Norbury Mackenzie is now preparing plans for the building.

THERE are a number of diphtheria cases at the Johns Hopkins Hospital and the Church Home, and no more patients are being received. All cases now in the hospitals are being discharged as rapidly as possible.

ANNOUNCEMENT is made of the engagement of Dr. A. Foster King of Staunton, Va., to Miss Margaret Skeock of Fergus, Ontario. The wedding will take place in Fergus on March 4 next.

DR. R. C. MASSENBURG, who has been confined to his home in Towson for the past four weeks, is able to be out, though not yet entirely recovered.

DR. WINFORD H. SMITH has been appointed superintendent of the Johns Hopkins Hospital, vice Dr. Henry M. Hurd, resigned, who will become secretary of the institution and advisor of the board of trustees. Dr. Smith is a Hopkins man, class of 1903. He is a native of Maine. He has shown rare ability in hospital organization and management. From 1903 to

1905 he was interne and resident gynecologist at Lakeside Hospital, Cleveland. From 1903 to 1906 he was hospital physician in the New York Department of Health, in charge of contagious disease hospitals. From 1906 to 1909 he was medical superintendent of Hartford Hospital, Hartford, Conn. Since February 1, 1909, he has been the general medical superintendent of Bellevue and allied hospitals of New York city, including Bellevue, Fordham, Harlem and Gouverneur Hospitals.

DR. WILLIAM IRVIN MESSICK of Baltimore has removed from 1606 Madison avenue to 1700 Linden avenue.

DR. HERBERT JEROME ROSENBERG of Atlanta, Ga., who has been for some time a patient in the University Hospital, Baltimore, is so far recovered as to be able to take a trip to Mt. Clemens, Mich., where he will take the baths.

THE General Alumni Association of the University of Maryland gave a theater party at Ford's on February 6. The affair was very successful.

DEATHS.

THOMAS HARRIS CANNON, M.D., University of Maryland, '01, of Baltimore, died at the University Hospital, Baltimore, January 29, 1911, of uremia, aged 33 years.

REYNALDO DORSEY MACKIN, M.D., University of Maryland, '88, died at his home in Grafton, W. Va., January 30, 1911, of Bright's disease, aged 47 years.

GEORGE W. MAHLE, M.D., University of Maryland, '05, died at his home in Baltimore, February 20, 1911, of tuberculosis of the lungs, aged 29 years.

JOHN J. SWEENEY, M.D., College of Physicians and Surgeons, '10, died at the Mercy Hospital, Baltimore, February 18, 1911, aged 25 years. Death was due to accidental poisoning with bichloride of mercury.

DEANE WALLACE CARR, M.D., University College of Medicine, '08, of Richmond, Va., died at his home in Richmond February 23, 1911, of heart trouble.

ALFRED WESLEY BEAR, Washington University School of Medicine, died at his home in Barnard, Mo., January 21, 1911, from influenza, aged 69 years.

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KORSAKOW'S SYNDROME—CEREBRO- PATHIA PSYCHICA TOXEMICA.

By Arthur P. Herring, M.D.

THIS polyneuritic psychosis has been recognized as a distinct disease entity since 1887, when Korsakow described the psychic symptoms accompanying or following polyneuritis. Prof. Serbsky states that the discovery by Korsakow of this disease is the greatest conquest that has been made of late years in the world of psychiatry, and in importance can only be ranked with general paralysis. Both diseases are well defined, and are based on exact anatomical and pathological data, although, unlike general paralysis, Korsakow's disease is rare. The mental symptoms now grouped under the heading of Korsakow's disease have long been noticed in connection with all forms of multiple neuritis, no matter what their origin. Various opinions are still held regarding the etiology of this disease. Bonhoeffer states that 75 per cent. of the cases occur in alcoholics, while only 3 per cent. of alcoholics develop Korsakow's psychosis. It is more frequent among women than men. The four cases I have seen were all women. The affection is a transition between infectious, toxic and exhaustion psychoses. In fact, all three have the power to give rise to the disease, probably by inducing a disorder of general nutrition, resulting in an auto intoxication.

That the syndrome is undoubtedly the result of a toxemia is generally conceded, but the nature of the poison, which in some instances affects the central nervous system and in others the peripheral nerves, or both, has not yet been determined. It was first thought that alcohol was the etiological factor in all cases, but it is now recognized that the disease may follow typhoid fever, tuberculosis, gastro-enteritis, necrosis of the pancreas, hepatic insufficiency and toxic conditions due to lead and arsenic. I have

seen one case following typhoid fever, another following a pancreatic abscess and two the result of alcohol.

Whatever may be the final pathogenic agent, we know this disease follows various intoxications, and chronic alcoholism stands so prominently in the foreground that by some it is considered a *sine qua non*. There appears to be no doubt but that the brain, which has become injured through alcoholic intoxication, reacts more readily to a superimposed toxemia, either produced within the organism or introduced from without; yet the possibility of the condition appearing on ground not prepared by alcohol cannot be denied. Korsakow's 14 classical cases, in which alcohol did not enter as a predisposing factor, emphasize this.

SYMPTOMATOLOGY.

The somatic symptoms are typical of a peripheral neuritis. The neuritis may precede or accompany the mental symptoms and be ushered in with vomiting, fever and general weakness, followed by pain and tenderness in the extremities and various sensory disturbances. The knee jerks active at first; later become abolished; the other reflexes diminish; sensory and trophic disturbances develop. Muscular atrophy, contractions and deformities due to permanent paralysis may result. The lower extremity is more often involved, the extensor muscles more often than the flexors.

The clinical forms, as originally described by Korsakow, were:

First. Those cases ushered in or accompanied by delirium.

Second. Those cases with confusion or stupor.

According to Ballet, there are five clinical types:

First. An amnestic form, the chief feature being the marked memory defect for recent events.

Second. The confusional type, the patient being apathetic and indifferent to his surroundings, responding slowly or not at all to stimulation.

Third. The delirious form, in which hallucinations are active. The psychosensory production is marked.

Fourth. The emotional type, in which the patient is apprehensive, anxious, phobias and an exaggerated emotional reaction dominating the field of ideas, which are constantly changing.

Fifth. The dementing type, in which there is a still greater interference with all forms of associate activity and less reactive to stimuli. This asthenic dementing form may terminate in death.

Briefly put, the more important psychic symptoms in disturbances of the mind are evidenced by:

1. Hallucinosis, oral and visual illusions or hallucinations.
2. Amnestic disorientation.

3. Impaired memory for recent events, with confabulations, falsifications and pseudo-reminiscences.

4. Hyper-suggestibility.

The hallucinosis is of no definite duration. The most marked mental symptom of the psychosis is the peculiar memory defect, the markedly diminished impressibility of memory, as a result of which disorientation is usually complete; time, place and events all hopelessly jumbled, gaps in memory are filled in with fabrications and confabulations. Memories of the hallucinatory delirious state are retained after the hallucinations have subsided. It is the field of memory that shows the most marked changes. Events of one minute are forgotten the next.

Memory is affected in three ways:

1. Retention is impaired.
2. Power to recall is weakened.
3. To localize one's self is impossible.

There is a disturbance of function, a failure to assimilate impressions from without into consciousness, and to represent those before it which have already been assimilated in the past—a failure of "mental synthesis."

Fabrications occur in which actual events are hopelessly mixed and described in absolutely false sequence and connection, leading to fantastic stories. There are "hallucinations of memory," in which patients confidently recall things which never happened.

The term "pseudo-reminiscences" is applied to this class, while "confabulations" are used to bridge over awkward gaps in the patient's memory.

The emotional condition is subject to oscillations and greatly influenced by suggestions. The patient is generally cheerful and jocular, but underneath this condition is one of peevishness and irritability.

The principal memory defect is best expressed under the term *Merkfähigkeit*; that is, a patient shown pictures, words or objects and asked within a few minutes to recall them is totally unable to.

The pseudo-reminiscences or falsifications of memory are brought out when the patient tells of a journey he has just taken, describing accurately the various places visited and the conversation held—giving, in fact, minute details which appear very plausible, when, as a matter of fact, the patient has been in bed for several weeks.

Not infrequently cases are seen in which the lacunae in memory do not seem to follow any rule, the patient remembering, without any particular reason being evident, certain events and situations, while apparently oblivious to others.

The duration of a polyneuritic psychosis usually lasts from several months to a year, and may terminate in either complete recovery or pass into a chronic state of dementia.

REDUCTION OF BLOOD PRESSURE BY PHLEBOTOMY—IN EMERGENCY.

By *G. Timberlake, M.D.*

ON the evening of March 4, this year, while attending some function held at the Baltimore Country Club of Baltimore, Md., I was requested by the steward to go into the servants' changing-room to see a man who was sick, and who was said to be unconscious and was dying. After some hesitation I went down to where the patient was, and found him lying out, to all intents and purposes unconscious. He was looked over, consideration being given to the possible age, size and build; special attention having been given to the condition of his blood vessels and reflexes. It was noted that there seemed to be a complete paralysis of the right side of the body, as well as the left side of the face. The condition suggested that of an apoplexy, cerebral congestion, or uremia. There was noted a definite fibrosis of artero sclerosis, which suggested themselves by the firmness of the arteries. The veins stood out very prominently, and the valve areas were easy of observation. While making observations of the case there appeared on the scene two or three physicians of Baltimore, gentlemen of reputation, both in the medical and surgical field, who saw the case and drew their own conclusions. We decided while instruments, such as I shall describe later, were being boiled, to act immediately, the condition of the patient well justifying the end sought.

With the assistance of these physicians, a liberal amount of soap and water, some pure carbolic acid—and alcohol, which was necessarily at hand; a two-bladed pocket-knife, two ordinary sewing needles, a spool of No. 30 O. N. T. white cotton, which were boiled in ordinary pans—a phlebotomy was done. A threaded needle was inserted beneath the median vein as was found appearing on the outer side of the wrist, which was closed off by the common figure-of-eight, the thread winding its way alternately to and fro around the needle; the second needle was introduced through the skin beneath the vein about 10 m. below the first and left without its circulation being impeded or stopped by the figure-of-eight, as suggested in the previous step. This having been done, a bold incision by the point and blade of the knife was made through the vein, after which the blood was allowed to flow until about one pint, by rough estimation, was eliminated. In order to close the vein, which was bleeding, the second figure-of-eight was placed around the second needle, thus shutting off the flow of blood. A teaspoonful of salt was added to a pint of warm boiled water, and the area cleansed as best possible under the conditions, after which a bichloride solution of one to 1-1000 was added to gauze, which had been purchased in the meantime at a neighboring drug store and placed over the wound and the arm bandaged up.

In less than an hour's time the patient was sitting up, and shortly

afterwards walked to the automobile which was requested to call for the purpose of taking him to the hospital. He was taken to the hospital that night, and on the following morning the bandages, dressings and needles were removed, he having shown a very definite improvement.

He seemed perfectly sane; his reflexes and powers of equilibrium were apparently normal. He was turned over to Dr. Robert P. Bay of the University Hospital, who looked into and after his case, and who has reported that there followed no untoward symptoms. In one week's time he was out of the hospital, and in two weeks' time had returned to work, his occupation being that of a dishwasher, and his age 57.

The report of this case is not suggested by any impulse of my own, but because of certain interesting features which were brought forth before and during the procedure which caused such comment as to impel me to make slight mention of it.

This simply goes to show that it is not invariably necessary to have specially-equipped operating-rooms for doing work which results satisfactorily to all parties concerned, and I wish to emphasize the fact that it would be to our advantage if we had more emergency work to do. I wish to thank and commend the attitude of the management of the Baltimore Country Club in its attitude toward the servants, and also to thank Drs. Gibson Porter and John R. Winslow of Roland Park, and Dr. Walter Scott of Birmingham, Ala., all of whom were present and offered the most proficient assistance.

DEVELOP SEWERAGE SYSTEMS—AN ADDRESS BEFORE THE CITIZENS OF MT. WASHINGTON, MARYLAND.

By William J. Todd, M.D.

AN appropriate text or motto for this evening's talk will be found in the following quotation from the Bible: "And the Lord said unto Cain, 'Where is Abel, thy brother?' And he said, 'I know not; am I my brother's keeper?'"

Some years ago, in this building, while speaking of the development of medicine and the germ theory—the theory that all diseases are caused by germs—I stated that the man in the large house, with all the modern appliances and conveniences to protect himself and his family against disease and to insure health and happiness, must know the condition of his poorer brother in the small cabin who may be suffering because that small house is poorly ventilated, his grounds badly drained and in an unhygienic condition—in other words, the rich man is his brother's keeper. "The most important food that we consume is air; the next in importance is water, and the next is the product of the grocery shop. Man can live without the latter for three weeks; without the next for

one week, and without the former for three minutes. Air is the cheapest, the most abundant and the most essential. We have given much attention to pure groceries, and we should be loathe to consume over again what someone else has ejected. We have more recently awakened to the importance of pure water, and the harm of ingesting water which someone else has used is well understood" (James Peter Warbasse, M.D., *Medical Sociology*).

I am here tonight to speak in behalf of the projected sewer from Pikesville through the Western Run Valley to a disposal field near Mt. Washington. As you all know, Western Run is nothing more nor less than an open sewer—a polluted stream emptying its waters into a basin which is in Mt. Washington, then to Jones Falls. I speak of it from a medical standpoint, from the viewpoint of a physician; the financial side of this development I will leave to others. The topographical condition of the land around Mt. Washington causes almost all of the drainage from Arlington, Pikesville, Ruxton and the Falls road to fall into Western Run and Jones Falls, then on into the city. The development of Mt. Washington has, in late years, been by way of the west from Arlington and Pikesville, and will develop later from the north from Ruxton and from Roland avenue along the Falls road, between Belvedere avenue and Bare Hill. All this development means new houses, and new houses mean an increase in the number of inhabitants, and an increase in the number of inhabitants means an increase in waste, which means illness and death to many unless that waste is properly disposed of. I read you a quotation on the value of air, water and the products of the grocery store. Perhaps all of you know that there is air in the ground, and that it is just above the line of the ground water; if the ground water is low, as, for instance, during the past summer during the drougth, the ground air extends deeper; the sewage that has drained into or on the ground saturates and pollutes it; also the ground air, and in time the ground water which flows into dug wells. We drink this water and breathe this air, and are infected with typhoid germs or germs of other diseases. Chickens carry night soil on their feet from open privies, and, roosting on the open platforms of dug wells or cisterns, drop the night soil from their feet into the water, infecting it. Flies carry night soil from open privies into our kitchens through unscreened windows, infecting the food there, or go into our unscreened dining-rooms and infect the food while we are eating it. All of us are in constant danger of contracting diseases, more particularly intestinal diseases; for instance, typhoid fever.

With the increase of population comes the increase of modes of infection; with the increase of modes of infection comes the increase of disease. In the United States we have a varied population, composed of many nations and colors; these men of different colors bring from their homes the diseases peculiar to them and infect others. We are in danger of diseases from dust, waste;

particularly that of night soil. We are in danger from mosquitoes carrying yellow fever and malaria; we are in danger from the very servants we have in our houses. It has been demonstrated that not only servants, but others are carriers of disease, carrying the germs of typhoid fever for years in their bodies and infecting other people; in fact, whole families. I have found in my own home two cases of tuberculosis in servants. I have a history of typhoid fever given to a small child by a negro nurse who cared for the child's milk. I have histories of two small children infected with typhoid fever by drinking water from a small stream while at play. There is danger from servants going to their homes in the South and returning with germs of hookworm; these hookworms pass through the body, and, being deposited on the ground, in turn infect others. I relate all this because you who are some distance from Mt. Washington, you whose drainage eventually flows into Western Run and on to Mt. Washington, may realize how important it is to dispose of your sewage properly, and also to hold out to you what danger you are running from receiving the infection higher up on the Western Run and the danger of your ground becoming polluted. I consider it the duty of boards of health, county and State, to further and provide means for the proper disposal of sewage. Then compel each and every property-owner to make a connection with the general sewer, and to assist in maintaining the system. These sewerage systems may be owned by the public authorities or by private corporations, but must be at all times under the inspection and direction of State authority; this State authority is the State Board of Health. The time is very near when all of the State Boards of Health will be under the direction of a Federal Board of Health, if I read the signs right. State or Federal authorities should have control of all sewage disposal plants, water plants and the supervision of the development of all new subdivisions of land into lots. In the near future developers of new subdivisions of land will, before offering their lots for sale, submit their plans to the State Board of Health for approval and endorsement.

Looking forward to the development of this part of Baltimore county, I feel sure of the extension of Mt. Washington to Pikesville; or, if you please, Pikesville to Mt. Washington; the extension of Roland Park to Mt. Washington (Roland Park is much closer to us today than it was five years ago); Arlington is coming toward Mt. Washington; all of the property between Roland avenue and the Falls road will be developed in a few years. Ruxton will be developed southward toward Mt. Washington. This will mean a large and prosperous community, and the health of this community will depend upon the proper drainage, and we must prepare for it now, and dispose of it properly, or else future generations will criticize and complain bitterly of our lack of foresight. Mr. H. G. Skinner of Mt. Washington suggested the other evening that, as Baltimore city is now spending a large sum of money

for a sewerage system in that city, how long, he questioned, do you suppose Baltimore city will be willing to take our drainage and sewage from Jones Falls, allowing it to pass through the city? The time has come to act; do not let us lose our opportunity, and let us realize that we are our brother's keeper.

To those gentlemen everywhere interested directly in the development of large tracts of land, let me suggest: do not expect to interest many purchasers in the future in your lots until you have established a plant furnishing good water; until you have laid a good sewer, and have a first-class sewage disposal plant. To the property-owners of Baltimore county: do not falter in this undertaking to establish good sewers in your county, you must not drop the question; you must develop sewerage systems; you have burnt your bridges; you know your sanitary conditions, and you know the remedy. You owe it to yourselves, your families and to your neighbors.

DR. BRAYSHAW'S ADDRESS.*

Mr. President, Brothers of the Faculty and Guests:

Gentlemen—The Chief Executive of this ancient city has accorded to you a greeting so complete that it leaves me naught but reiteration. The Anne Arundel County Medical Society, however, does homage to duty, and to the kinship engendered by similar purpose. It proffers hearty welcome, and cordially thanks you for your presence in this old Capital City, so rich with memories of Scott and of Warfield, those apostles and pioneers of healing whose "blazed trail" through the forests of disease, a new land entails on its discoverers, may yet be followed: whose virtues still lend a gracious atmosphere to scenes that know them no more.

Even so, it is with the Medical and Chirurgical Faculty of Maryland, wherever this distinguished body convenes. To that city, and to those of the fraternity therein dwelling, it contributes a prestige that remains intact throughout the ages. Let us see to it that this glory shall never know diminution, and though my home is distant from this "madding crowd" several Sabbath day journeys, I fondly hope the aura of this festal occasion may be visible there, if ever so faintly. Surely my exalted station as president of the Anne Arundel County Medical Society should carry weight and win from fickle Fate my heart's desire. This open vanity prepares you for the announcement that the speaker is that human curio, a country doctor. Has it ever occurred to you, my friends, that that once formidable army is vanishing; that the passing of the country doctor is absolutely sure; that a few brief decades hence his funeral knell will toll? What constrains me to voice this prophecy is the pressure brought to bear on centralization. The centralization of every dominant force in existence, the unification of this and that idea. Briefly summed up, to specialize has bitten into young humanity with the

*Address delivered before the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland at Annapolis, September 12, 1910.

aggressiveness and unbreakable hold of shark's teeth. The medical student of up-to-date standards is a specialist before his assimilative processes develop. In the rudimentary stage, while conning the alphabet of culture, he sees himself the observed of all his skill with scalpel and silver wire compelling the admiration of nurses, the avenue of Fame's transmission to the waiting world; the world has a great surgeon to its credit and can await appendicitis without dread. Surgery is the specialist's trade. Laparotomy! Hystereotomy! splendid words, these, and the operation more splendid. We have no right to condemn this superior mind to the vapid bounds of general practice; worse still to bid it find content in tending measles and mumps and the teething infant, the subject-matter of the country career. Such a grind would be suicidal, and he faces about, the green beauties of field and forest merging into the ragged edge of brick, the city sky line.

For the specialist is essentially urban, and until he hacks himself into notice the hospital clinic drawn from the public ward furnishes material for practical demonstration of the talent vested within, little reckoning in his self-absorption that the disdained region and its plodding supervisor are giving him his opportunity and could give pointers on abnormalities that the unfledged specialist, in his restricted groove of gynecology, of eye and ear, of respiratory organs, dream not of. I could draw parallels *ad infinitum*.

Specialization is a growing fad, and rural work more and more despised: but, my friends, the proudest title you can accord me is the country doctor. Year after year I am drawn closer to Nature's heart; a wizard's spell is hers that I delight to frolic with, though detrimental to slumber and oft charged to St. Peter.

The rustic Borgias are numberless; shudder on, my brethren, for I cite a truth; that wherever the population dates back to colonial days can be found venerable dames who practice among their neighbours the black art. Oft, while awaiting the coming of the doctor to a child in convulsions, the undershirt will be taken off the patient and burned, thereby preventing a recurrence of spasms.

A preventive for septicemia, following a rusty nail puncture, is to place the nail in a ball of beeswax; then no harm can befall the injured. And again before calling the doctor for malaria, to try a good old remedy that seldom fails; a thin slice of bread nicely buttered, and sprinkled with a few hairs, cut from the base of the brain, and eaten for five successive mornings before breakfast, never fails to bring desired results unless it is a case of "shakin' ager."

You may imagine the vicissitudes under which we labor are manifold; that it is like "dropping buckets into empty wells." But the confidence, the trustfulness, the love of the people with whom we live and move more than compensate us. The attentive, though heedless, ear we turn to the medical folklore makes for the country doctor a niche in the hearts of the people unique indeed, and one that, when "life's fitful fever is o'er," leaves a vacuum that only a new generation can fill.

VENTILATION OF SCHOOLROOMS.*

By C. W. G. Rohrer, M.A., M.D., Ph.D.,
Baltimore, Md.

INTRODUCTORY.

Mr. President, Ladies and Gentlemen:

"You'd scarce expect one of my age
To speak in public on the stage;
And if I chance to fall below
Demosthenes or Cicero,
Don't view me with a critic's eye,
But pass my imperfections by."

MORE than a century ago a member of your profession wrote the old, familiar verses from which I have just quoted. David Everett, a public school teacher away up in historic Massachusetts, wrote these words for one of his pupils—a little boy seven years old. They were spoken by this seven-year-old boy at an old-time school exhibition, the kind you and I used to go miles to attend. We still regret that those helpful, entertaining school exhibitions have become a thing of the past and are no longer given. David Everett, the author-school-teacher, can justly be called the "Edwin Markham of his generation."

Before proceeding further, I beg to assure you of the great pleasure it affords me to be present at this session of the Kent County Teachers' Institute. I am always happy to mingle with members of the time-honored profession of teaching. It is especially gratifying to learn that you are not only interested in "teaching the young idea how to shoot," but are also desirous of fostering the health of the pupils entrusted to your charge.

Yours is a sacred calling. But it is unnecessary for me to lay especial stress upon the holiness of your sacred calling. The very fact that you have requested this lecture, and your presence here this afternoon, bear testimony of your devotion to your profession and to the best interests of your pupils.

AIM OF EDUCATION.

Tillotson, the great master mind of two generations and a half ago, tells us that the true aim of education is "to fit us for complete living." Very good, indeed. But education may also be described as a two-edged sword cutting both ways for good or for evil. Education may be a blessing or a curse, according to the conditions under which it is obtained. To begin education too early is often detrimental to a child's health. What is likely to be the result? Why, the prodigy of the nursery becomes the fool of the family. Well did the great statesman proclaim, "We must

*Read at the Kent County Teachers' Institute, held at Chestertown, Kent County, Maryland, September 6-8, 1910.

educate, we must educate, or we must perish by our own prosperity!"

To proceed a step further: To educate the mind at the expense of the body borders upon the criminal; because health has no handicap in the race of life. To compel a tender, growing child to sit for hours in a stuffy, poorly ventilated school-room is inhuman, to say the least. Truly,

"Man's inhumanity to man
Makes countless thousands mourn."

We have a very effectual Child Labor Law in the State of Maryland. Its proper administration is doing a vast amount of good. Maryland, however, should have a more definite law pertaining to school children, their age upon entering, the number of hours to be devoted to study, and above all things the sanitary condition of the school-room.

MAN AN AIR-BREATHING ANIMAL.

Man is an air-breathing animal. Man requires oxygen for his existence. How shall he obtain the requisite amount of oxygen?

1. By spending in the open air as much as possible of his allotted three-score years and ten; and,
2. By providing for proper and effectual ventilation when it becomes necessary for him to be domiciled in the home, in the office, in the church, in the school-room, or in the public building.

WHAT IS VENTILATION?

Well might we ask the question, What is ventilation? Briefly stated, we may say that ventilation is the means resorted to for the dilution and prompt removal of impurities of the atmosphere within our dwellings. These impurities are derived principally from the pulmonary and cutaneous exhalations of men and animals, and from the products of combustion of lights. To illustrate the necessity for ventilation I wish to mention three extreme instances. One is the "Black Hole of Calcutta." The horrible story of the "Black Hole of Calcutta" is familiar to every one. Of 146 prisoners confined in a dark cell at night, only 23 were found alive in the morning. The second instance refers to the great battle of Austerlitz. After the battle of Austerlitz 300 prisoners were crowded in a prison; 260 died in a short time from inhaling the poisoned air. The third is that of the steamer "Londonderry," in which, of 200 steerage passengers who were temporarily crowded into a cabin (18x11x7 feet) during a storm of only a few hours' duration, 72 were dead and others dying when the cabin was opened.

PURPOSE OF VENTILATION.

Besides being air-breathing, man is also a gregarious animal. The artificial conditions under which he lives necessitate that

ample provision be made for ventilation. The health of his body demands it. It is also essential to his spiritual well-being.

Our first parents, Adam and Eve, lived in a garden. No stately mansion adorned the premises. The canopy of heaven was their only roof-tree. Cain was a tiller of the soil; Abel was a keeper of flocks and herds. Both lived near to Nature and to Nature's God.

Consider the American Indian in his primitive condition. Those sturdy children of the forest lived largely out of doors. The pursuit of the chase furnished them food and sustenance. Did they breathe the foul air of the church, of the school-room, or of the poorly ventilated private residence? Not at all. The leafy groves were their first and only temples. The book of nature was their school-book, and Dame Nature their teacher. They breathed the pure, ozone-laden air of the pine forest and of the boundless prairie, and breathed it abundantly. A healthier, hardier race of beings it would indeed be hard to find.

VENTILATION OF SCHOOL-ROOMS.

Among the most important of public health questions is the problem of ventilation. High up in the scale stands the ventilation of school-rooms. The pupils, earnest seekers after light and truth, and their busy teachers, spend from five to six hours daily in the school-room. This period represents nearly one-fourth of the twenty-four hours. How important, then, it becomes for both pupil and teacher that the school-room should be properly ventilated. How is this to be accomplished?

HOW BEST TO VENTILATE?

Numerous patent ventilators are on the market. Some of these, while complicated and high priced, are really "fair to look upon." But their utility can be seriously questioned. In fact, I am only mentioning them to condemn them in a measure. For school commissioners to purchase patent ventilating devices and fit up school-room windows with them would be an unnecessary expenditure.

In order to ventilate a school-room properly the air must be kept constantly in motion. The air may be kept in motion and efficient ventilation secured—

1. By those forces continually acting in nature, producing *natural ventilation*. The three main forces of natural ventilation are diffusion, the winds, and the motion caused by the difference in weight of air of different temperatures. And,
2. By these main forces of natural ventilation in combination with other forces set in action by man, giving *artificial ventilation*.

Diffusion is constantly taking place between all the gaseous constituents and impurities of the air, and even goes on through brick and stone walls, but is insufficient in itself to keep the air

pure, though it does much to further this object. Moreover, as suspended matters are solid, not gaseous, they are not changed or removed by it.

Winds are powerful agents for ventilation, and a slight breeze passing through a school-room changes the air therein many times in the course of an hour, and carries out by its force many of the solid impurities not affected by diffusion. Wind will pass through walls of wood, brick or stone, although its progress is markedly arrested by much moisture in the walls and by paper or plaster. In winter, however, the wind usually has to be excluded directly from our school-houses, because a velocity of five or six feet per second is not to be borne unless the air be previously warmed.

The most important agent in natural ventilation is the third one mentioned, namely, the movement produced by variations in the specific gravity of air. As the air expands when heated, it becomes lighter, volume for volume, and rises because the colder, heavier air pushes in beneath to occupy the space.

DIFFUSION OF GASES.

By this time it must be plainly evident that upon the law of diffusion of gases largely depend the principles underlying ventilation. Slightly stretching the meaning of the term, the wind might also be included under this head, it being produced by the same force.

Expired air, heated and warmed to body temperature and not unduly laden with moisture, has a tendency to rise toward the ceiling. This is a law in physics. It is what makes the ~~smoke~~ go upward. Warm air ascends and cold air descends; thus the warm air occupies the upper portions of a room and the cold or cooler air the lower portions, a condition of affairs which can be tested to one's entire satisfaction by mounting a chair or table in a heated room and attempting to pick an object from the ceiling.

PRACTICAL APPLICATION.

Bearing in mind the law of diffusion of gases, you at once have at your fingers' ends the best method of natural ventilation. Tersely stated, how can we best apply this principle to the ventilation of school-rooms? I will tell you. Lower the school-room windows from the top, a few inches or more, according to the season, to allow the warm, expired air to escape. Also raise the windows slightly from the bottom to permit fresh air to enter from without. If the wind is high and the weather extremely cold, the windows need not be raised from the bottom. A sufficient amount of fresh air will enter between the upper sash and the lower one.

The above is a broad, general statement and applies especially to school-rooms of moderate dimensions. For larger school-rooms it can also be accepted, however, with certain modifications.

A proper system of ventilation must take into consideration

the cubic space of the school-room to be ventilated, and the number of pupils ordinarily inhabiting this space. Concerning Kent county, there is scarcely a public school-room in Kent county which cannot be properly ventilated by means of natural ventilation, which I have just described. If natural ventilation proves to be inadequate, artificial means must be resorted to. Here again the simple rule applies: the air in the school-room must be kept in gentle, continuous motion. So simple a contrivance as an electric fan helps to bring about this consummation.

ARTIFICIAL VENTILATION.

Certain large buildings have a so-called *cowl* or *ventilator* fixed in the ceiling near the dome, occupying very much the situation of the ordinary skylight. This allows a ready escape for the warm, expired air. Unless the fresh air is admitted near the floor, and warmed as it enters, such a system of ventilation is likely to reverse the old proverb, "Keep the head cold and the feet warm." But it must be an exceptionally large school-room that would require a ventilator in the roof.

The old-fashioned, open fireplace was one of the best ventilators. It is not at all surprising that Charles Dudley Warner should have written that it is impossible to rear a boy or a girl properly without an open fireplace with its rusty iron grate and luminous back-log.

But the old-fashioned fireplace exists no more, save in the memory of us who are no longer boys and girls. There reign in its stead the coal stove, the furnace and the steam-heating apparatus. Each of these has its own particular merits, but these are practically naught as aids to ventilation. Some of our largest school-rooms and churches, however, are splendidly equipped by reason of the hot-air furnace. The warm air is admitted by means of registers built in the floor. These are located a sufficient distance from the desks of the school children, so as not to cause any of them to become overheated: because nothing is more dangerous than to stand or sit over a hot-air register on a chilly, wintry day. The windows are lowered from the top so as to allow the expired air a means of escape. The windows, long and with large panes of glass to insure plenty of light and sunshine, extend within a few feet of the floor. Between the windows additional small inlets for fresh air are also provided. This arrangement permits the fresh air to be properly heated at the time of its entrance into the room.

A school-room heated by a steam-heating apparatus possesses practically the same advantages, namely, the fresh air as it enters is properly heated and warmed, and a ready exit can also be provided for the air that has been breathed.

HEATING VERSUS VENTILATION.

There is more truth than poetry in the old adage, "Keep the feet warm and the head cool." School children cannot study

properly if their feet are cold. Cold feet cause a rush of blood to the head, and are a frequent source of headaches in school children, in addition to the discomfort which they invariably produce. Parents should see to it that their children reach the school-room with their feet warm and dry, and teachers should make it a point to preserve this condition of affairs during the time spent in the school-room. The teacher can only do this by paying strict attention to ventilation and heating.

Doubtless it has already occurred to you that the old way of heating a school-room by means of stoves is not as sanitary as it ought to be. Unless proper provision be made, such a school-room cannot be properly and effectually ventilated. But it should be added that it is well-nigh impossible to heat our smaller school-houses, especially country school-houses, otherwise than by means of stoves. A redeeming feature is the fact that country school-houses, as a rule, are not over-large.

Country schools may be heated by stoves surrounded by sheet-iron drums, and ventilated with fresh air from without brought in near the bottom of the stove. I admit this would be a perplexing and difficult problem in most country school-houses, and scarcely at all practicable. But you must see the force of my argument. It is to provide for the requisite amount of fresh air *properly warmed upon its entrance into the school-room.*

The last-named feature calls forth another important desideratum in the ventilation of school-rooms. It is this: Avoid bringing in large quantities of air from without *that has not been properly warmed*, otherwise unpleasant chilling and injurious draughts will be the result.

OTHER DESIDERATA IN VENTILATION.

Any correct system of ventilation must take into account the source of the air supplied, the distribution, and the heating or cooling of the air when necessary. For school-rooms and the like there must be extreme care taken that the pupils have a full supply of properly warmed air and are not overcrowded.

The air supplied to school-houses should be taken from a point well above the level of the ground, where it is free from contamination and is constantly changing, and not from cellars or closed areas, where the atmosphere is stagnant and full of impurities. The conduits or pipes leading to the heating or ventilating apparatus should also be so arranged that they may be frequently and readily cleaned. It is well to have them covered with gratings to prevent objects being thrust into them, and in some cases it may even be advisable to filter the air through coarse cloth or fine wire-gauze to free it from dust and other impurities. This latter remark especially applies to school-houses located in manufacturing towns or cities.

The following are the two most difficult problems in the ventilation of school-rooms:

1. To secure a uniform distribution of pure air through the school-room. And,
2. To remove the impure air as fast as the pure air is supplied, thus preventing its undue mixing with the latter.

But "circumstances alter cases," and certain circumstances always make the question complicated. These are the size and number of inlets and outlets, the rate and direction of motion, and the forces acting to produce it must always be subject to constant change, and must thus constantly alter the result. In fact, it is practically impossible to devise a broad general plan that will satisfy all conditions at all times. Doing the next best thing is in order, and this consists in selecting the one plan which will give the greatest efficiency and most satisfactory results under all ordinary circumstances.

The force of diffusion, the purifying action of winds, and the utilization of various simple mechanical devices will next be considered. The force of diffusion is the first main force of natural ventilation described above. This will always act so long as there is any communication between the exterior and the interior of the school-room, and hence no special attention need be given to it. For reasons already given, we cannot use the wind continually. But we should employ this great aid to natural ventilation whenever possible by opening the doors and windows of the school-room at recess time, during the noon respite and before and after school hours. The benefits which accrue thereby are incalculable, because of the great power which the wind has for sweeping out solid impurities and thoroughly changing the air.

As physical geography defines it, "wind is air in motion;" therefore, in cold weather currents from windows, etc., should be directed toward the ceiling so that they may be diffused and partially warmed before reaching the inmates of the school-room. This is especially important as regards the tender occupants of the primary department.

Numerous devices have been suggested for introducing unwarmed out-door air without discomfort, or for diffusing it through the school-room. Among these may be mentioned perforated bricks or double-paned windows similar to those in use in Pullman cars, valves, screws, cowls or ventilators. A cheap and satisfactory temporary arrangement is to place a board about four inches wide and just as long as the width of the window-sash beneath the latter. Or, better still, have a light frame covered with fine netting or wire-gauze, four or five inches wide, made to fit above the upper sash. The fresh air from without can now enter freely between the upper and the lower sash, being reflected upward by the inner surface of the glass in the upper sash, and thus mixing with warm air before reaching the occupants of the

school-room; while the frame at the top of the window becomes an outlet for the foul air, the interference of the netting or gauze preventing too rapid an outgo and consequent loss of heat. The Pullman automatic ventilator, now in use in various banks and other public buildings, is one of the best of the high-priced ventilators.

The crude method used by a friend of mine for ventilating his sleeping apartment could be utilized at certain seasons of the year for ventilating the school-room: remove an upper pane of glass from one of the windows. This has reference to windows having panes of glass of small size.

But in a variable climate like our own, and in cold countries, the out-door air must be warmed before it is permitted to enter the school-room. Special measures must be taken during a large part of the year to bring about this desideratum.

The third force of natural ventilation, viz., the movement of unequal weights of air, is our sheet-anchor in the ventilation of many school-rooms. In these instances we must provide other openings for the entrance and exit of the air than the windows and doors. Three considerations should be met:

1. There should be a practically constant movement of the air through the school-room in a given direction.
2. We should be sure that the air is from a pure source. And,
3. We should aim to get the utmost service from our appliances.

The selection of the best locations for inlets and outlets has aroused considerable discussion, and there is widespread difference of opinion on this phase of our subject. Rigid general rules cannot be laid down. In every case there are special exigencies to be met, as the conditions are necessarily different and so many factors are to be considered. Two aims should be ardently sought for:

1. To have the air well distributed through the school-room or school-rooms. And,
2. To have no direct draughts from the inlets either upon the occupants or to the outlets.

It is infinitely better that the outlets should be located near the top of the school-room. This can be explained on the grounds that the heated and used air has a tendency to rise, and because, in unventilated school-rooms, the foulest air for sometime after its contamination will be found in the portions of the room nearest the ceiling. The products of combustion from lights, etc., will also practically all be in the upper strata of air. This latter feature is of slight importance with regard to school-rooms, as the sessions are almost invariably held in the day-time.

So much for the location of the outlets. The location of the

inlets will next engross our attention. The location of the inlets should depend upon the temperature of the incoming air, that is, whether it be hot or cold. If the incoming air is cold, it should be admitted near the ceiling, if possible, so that it may diffuse and be partially warmed before reaching the inmates of the school-room. If the incoming air is warmed, it may come in near the floor or below the middle level of the school-room.

In a small school-room one inlet and one outlet may suffice; but, in the case of the larger school-rooms where more fresh air is required, it is better to have a number of smaller inlets and outlets than one large one of each, as the distribution is then more certain. The total area of the outlets and of the inlets may be the same, as the expansion of the air is scarcely great enough to require a difference. The outlets should all be on the same level; otherwise the highest one will be the one of greatest discharge, and often the only one, the other possibly acting as inlets and drawing air from an impure source. Variations of temperature and current take place from time to time; hence some arrangement should be provided for regulating the size of the openings of the inlets and outlets in order to meet the existing conditions.

If the school-room be too small or overcrowded, the problem of ventilation is rendered still more perplexing. Many more changes of air will be needed, and the velocity at the inlets will of necessity be increased. Uncomfortable draughts are the inevitable result. Imperfect diffusion of the air throughout the room is another feature of importance scarcely secondary to that of the creation of draughts. Even when the air is properly warmed, so common experience shows, it cannot be changed much oftener than three times an hour without discomfort to the occupants of the school-room; unless the ventilating apparatus be very perfect in its workings and of a most approved type. Owing to its expensiveness, the *beau ideal* of a ventilating apparatus is rarely found in an ordinary school-room.

Again, it must be remembered that the difficulty of securing equable heating and ventilation increases with the height of the school-room above a certain limit. Ten or twelve feet will usually be found to be the safe limit of height for the average school-room.

THE SMEAD SYSTEM OF VENTILATION.

Probably the best of the artificial ventilators is that known as the Smead system of ventilation. The Smead system of ventilation can be installed by any up-to-date sanitary plumber. In the Smead system the used air is withdrawn from near the floor level and below the inlet openings, though not in too close proximity to them, since in this way a more thorough distribution of the incoming air and a greater dispersion of its contained heat are secured. The Smead system of ventilation and heating still further serves economy by carrying the foul air beneath the floor of the room from which it is taken, thus warming the floor with

what heat the waste air yet contains and securing the utmost benefit and value from the fuel.

The Smead system of ventilation and heating has been used with satisfaction in many schools throughout the country. In this, the air after being warmed and brought into the school-rooms at a level a few feet above the floor, circulates through them and is finally withdrawn through registers at the floor level, whence it is carried underneath the floors to large outlet shafts in which a draught is constantly maintained. In this way a thorough diffusion and changing of the air in the school-rooms is secured, and, moreover, the floors are kept warm by the heat from the air which is passing beneath them, but which would otherwise be lost and wasted.

AMOUNT OF FRESH AIR NEEDED.

Ordinarily we consider 3000 cubic feet of fresh air to be the average amount required per scholar per hour. Accepting this figure as a good working basis, the *cubic space* per pupil should be at least 1000 cubic feet. Reduced to cubic meters, this would be from 25 to 30 cubic meters per pupil. This figure is not excessive from a sanitary standpoint, although few school buildings meet the requirements here set down. About one-half the above figure is the amount of space usually allotted per pupil.

AN IDEAL SCHOOL-ROOM.

Schools should be so constructed as to permit of ready heating and ventilation, cleaning, and keeping clean. In large schools the method of heating will usually be by furnace-heated air, although a better method would probably be by steam or hot-water pipes.

Natural ventilation will give better satisfaction than a complicated artificial system. Where windows and doors must be largely depended upon for ventilation, the Bury window ventilator will give satisfactory results unless the school-room is over-crowded.

The Bury ventilator, so-called after its originator, is the special ventilating arrangement which we most commonly observe in large offices and in public buildings. The Bury ventilator consists of a wooden block interposed between the bottom of the lower window sash and the window frame. The air passes into the room through the openings in the block. The separation of the upper and lower sashes, when the ventilator is in place, also adds to the efficiency of the ventilation, as the air passes in through the space so formed.

Opening the doors and windows when the pupils are out of doors—flushing the rooms with fresh air—is an excellent aid, and is even useful in cases where the most elaborate artificial system of ventilation is in use.

A model school-room, according to modern views, should be about 9 to 10 meters long, not over 7 meters wide, and 4 to 4½

meters high. Such a room could be easily lighted by windows on one side only, and readily heated and ventilated. In a room of this size forty pupils would be a proper number, although fifty could be accommodated. The initial air-space for each pupil would be 5.60 cubic meters if there were fifty pupils in the room, and 7 cubic meters if there were only forty. This would be slightly reduced by the allowance for the teacher. The window area should be not less than one-fifth of the floor area, otherwise the light will be deficient. It is better that school-rooms should face toward the north. The light entering from the north side of a building would be equable during a whole day.

CHEMISTRY OF RESPIRATION.

The average composition of air in its normal state is about as follows:

Oxygen, 20.96 per cent. by volume.

Nitrogen, 78 per cent.

Argon, 1 per cent.

Carbon dioxide, 0.04 per cent.

Watery vapor, varying in amount with the temperature and other conditions.

A trace of ammonia, and a variable amount of ozone, organic matter, sodium salts, etc.

Oxygen is the most important of the above constituents. It supports all animal life; oxidizes, destroys and renders harmless organic impurities, and, by oxygenating the blood and oxidizing the food for our tissues, gives us heat and energy, the vital source of all our thoughts and actions. It is oxygen that puts iron into our blood. Surely, "the blood is the life." The "pale student," poring over his books, has become proverbial.

Air that has been breathed, or expired air, is deficient in oxygen and contains an excessive amount of carbon dioxide, watery vapor and organic matter, the latter being by far the most harmful part of animal exhalations.

DISEASES CAUSED BY DEFECTIVE VENTILATION.

It has been stated that 40 per cent. of the diseases of winter are due to improperly ventilated houses and school-rooms. Pupils habitually living in such an atmosphere are almost uniformly languid, pallid and anemic, subject to headaches, nausea and loss of appetite, and often to skin eruptions and disorders, and are undoubtedly markedly predisposed to consumption, pneumonia, bronchitis, scrofula, rickets, etc. Moreover, such an atmosphere apparently favors the spread of the various infectious diseases, such as diphtheria, scarlet fever, measles, mumps, chicken-pox, influenza, etc.

Parents often wonder why their children are stupid and drowsy while at school. They do not progress favorably in their studies.

Defective ventilation is often a rational explanation. Then it is that much study becomes "a weariness of the flesh."

Defective ventilation often causes people to go to sleep while attending church service, much to the annoyance of the earnest, well-meaning minister.

GUARD AGAINST MOUTH-BREATHING.

Now that you have provided pure air for your pupils, another duty awaits you. It is this: See to it that your pupils breathe through their nose and not through their mouth. Man is a bundle of habits. Eighty per cent. of mouth-breathing is due to force of habit; 20 per cent. is due to adenoids, enlarged tonsils, or both. These latter need the services of a physician.

Captain Catlin, an American artist who spent eight years (1832-1839) among the Indian tribes of the Upper Missouri, gives us another clue to the remarkable vigor and healthfulness of the Indian, and his comparative freedom from disease, especially throat and lung troubles. It is this: One of the rules of an Indian's life is to *breathe through his nose, not through his mouth*. In this respect, civilized nations can learn a most valuable lesson from the wild Indian of romantic history.

Captain Catlin wrote several books. One of them is a little volume entitled, "Shut Your Mouth and Save Your Life." On page 31 he says:

"Besides this frequent and most fatal of all diseases—consumption—bronchitis, quinsy, croup, asthma, and other diseases of the respiratory organs, as well as dyspepsia, gout of the stomach, rickets, diarrhea, diseases of the liver, the heart, the spine and the whole of the nervous system, from the brain to the toes, may chiefly be attributed to this deadly and unnatural habit; and any physician can easily explain the manner in which these various parts of the system are thus affected by the derangement of the natural functions of the machine that gives them life and motion."

"The proverb, as old and unchangeable as their hills amongst the North American Indians, 'My son, if you would be wise, open first your eyes, your ears next, and last of all your mouth, that your words may be words of wisdom, and give no advantage to thine adversary,' might be adopted with good effect in civilized life."

"And if I were to endeavor to bequeath to posterity the most important motto which human language can convey, it should be in *three words*—

"SHUT YOUR MOUTH."

CONCLUDING REMARKS.

Already you have been reminded of the sacredness of your calling. The minds and bodies of our children—our country's most valuable asset—are in your hands. I beseech you to watch over them carefully and with reverent devotion. Remember the Emersonian dictum: "The first wealth is health." The significance of the old adage, "A sound mind in a sound body," is also as true today as it was generations ago when first uttered.

In cultivating the minds of your pupils, do not forget to impart

instruction concerning the care of their bodies. "Train up a child in the way he should go, and when he gets old he will not depart from it." Childhood impressions are the most lasting. In childhood and early youth the mind, as well as the body, is more plastic and more susceptible to good or evil influences. Habits of right thinking and right living formed during the tender, ne'er-to-be-forgotten years of school-life wield a powerful influence in shaping one's destiny in after life. We are the architects of our own fortunes. Children who are compelled to sit 5 or 6 hours a day in a poorly-ventilated school-room (if ventilated at all) are contesting an unequal contest. A tender, growing plant would not thrive long under similar unhygienic conditions. Your potted plants—geraniums, begonias, oleanders, ferns, palms, etc.—would wither and die if exposed to the vitiated atmosphere of many unventilated school-rooms.

It is well to have a few green plants in the school-room. Their condition is a pretty accurate index to the purity of the atmosphere. In a room where plants grow and wax strong, children can also dwell with impunity. During the process of respiration, animate beings take in oxygen and throw off carbon dioxide; plants absorb carbon dioxide and liberate oxygen, by the process which you who are teachers of botany term *photo-synthesis*.

I desire to thank Mr. Melvin for his kind invitation to be present this afternoon to address this meeting. I thank you, members of the teaching profession, for your kind attention. I am well aware that the pathway of the school teacher is not always strewn with roses. Doubtless some of you have met with such scenes as Charles Dickens describes in his "Death of Little Nell," in which he says, "Towards night, the schoolmaster walked over to the cottage where his little friend lay sick." On the other hand, perhaps some of you have met with a happy experience similar to that of the school mistress mentioned by Oliver Wendell Holmes in his "Autocrat of the Breakfast Table." Dr. Holmes, the apostle of sunshine and cheerfulness, he who was "seventy years young," tells us of the charming school mistress who decided to "take the long road" with her gentleman friend.

My first school teacher, my teacher of 31 years ago, Mr. John Lewis Lutz, is still living in honorable retirement near Middletown, Frederick county, Maryland. He is 73 years of age.

In conclusion, I wish to read a short poem by Mrs. Margaret Sangster, entitled "The Old Schoolhouse." The poem is this:

"Set on a rounding hill-top
And weather-stained and gray,
The little mountain schoolhouse
Looks down on the lonesome way.
No other dwelling is near it,
'Tis perched up there by itself
Like some old forgotten chapel
High on a rocky shelf.

“In at the cobwebbed windows
I peered, and seemed to see
The face of a sweet girl teacher
Smiling back at me.
There was her desk in the middle,
With benches grouped anear,
Which fancy peopled with children—
Grown up this many a year.

“Rosy and sturdy children
Trudging there, rain or shine,
Eager to be in their places
On the very stroke of nine.
Their dinners packed in baskets—
Turnover, pie and cake—
The homely, toothsome dainties
Old-fashioned mothers could make.

“Where did the little ones come from?
Fields green with aftermath
Sleep in the autumn sunshine,
And a narrow tangled path
Creeping through brier and brushwood
Leads down the familiar way;
But where did the children come from
To this school of yesterday?

“Oh, brown and freckled laddie,
And lass of the apple cheek,
The homes that sent you hither
Are few and far to seek.
But you climbed these steeps like squirrels
That leap from bough to bough,
Nor cared for cloud or tempest,
Nor minded the deep, soft snow.

“Blithe of heart and of footstep
You merrily took the road,
Life yet had brought no shadows,
Care yet had heaped no load.
And safe beneath lowly roof-trees
You said your prayers at night,
And glad as the birds in the orchard
Rose up with the morning light.

“Gone is the fair young teacher;
The scholars come no more
With shout and song to greet her,
As once, at the swinging door.
There are gray-haired men and women
Who belonged to that childish band,
With troops of their own around them
In this sunny mountain land.

“The old school stands deserted,
Alone on the hill by itself,
Much like an outworn chapel
That clings to a rocky shelf.
And the sentinel pines around it
In solemn beauty keep
Their watch from the flush of the dawning
Till the grand hills fall asleep.”

Book Reviews.

A HANDBOOK OF TREATMENT FOR DISEASES OF THE EYE. OPHTHALMIC THERAPEUTICS. By Curt Adams, Assistant Surgeon in the I. University Clinic for Diseases of the Eye, Berlin. With a preface by Professor von Michel, Berlin. Translated from the second German Edition (1910) by William George Sym, M.D., F.R.C.S. Ed., and E. M. Lithgow, M.B., F.R.C.S. Ed. With thirty-six illustrations. New York: Rebman Company, 1123 Broadway.

The call for a second edition of this work within the space of a year from the appearance of the first edition speaks for its popularity and usefulness. It is essentially a book devoted to the medicinal and operative treatment of diseases of the eye, symptomatology and diagnosis being more or less completely ignored. As a treatment manual it cannot be excelled. The author tells simply and in a few words what is to be done. He speaks with the conviction of actual contact with the diseases under consideration and not as a compiler. Ophthalmic therapeutics in its varying aspects are very thoroughly considered, taking into consideration the size of the book, and the general practitioner will find it extremely useful in his daily routine. It is thoroughly illustrated, and the subject matter is in accord with modern ideas. The book is exceptionally meritorious, and we believe is destined to as great a popularity in America as abroad.

CASE HISTORIES IN PEDIATRICS. A Collection of Histories of Actual Patients Selected to Illustrate the Diagnosis, Prognosis and Treatment of the Most Important Diseases of Infancy and Childhood. By John Lovett Morse, A.M., M.D., Assistant Professor of Pediatrics, Harvard Medical School; Associate Visiting Physician at the Infants' Hospital and at the Children's Hospital, Boston. Boston: W. M. Leonard. Octavo; 320 pages. Illustrated. Cloth, \$3.00 net.

No more useful book on children's diseases has come into our hands for some time. Here one has a careful clinical record of actual cases as they present themselves to the practitioner. Such a book in itself is naturally an exceptionally reliable reference mart in cases of doubt. It is, in fact, a consultant without the presence of the second party to the consultation. One field in which it can be employed with beneficial results is the reading of the histories to students in order to test their acuteness in co-ordinating the various symptoms, and thereby rendering a problematical diagnosis. Students derive the greatest benefit from such exercises, and as this volume is based on actual cases, the benefits thus derived will be manifoldly greater than in most histories. The diseases are taken up systematically and classified under section headings; thus, diseases of the gastro-enteric tract, diseases of nutrition, specific infectious diseases, etc. A clear

history of the case is obtained, as the author has considered each record under the captions history, physical examination, diagnosis, prognosis, and treatment.

Such a book is of necessity pregnant with a quantity of useful data, as the information imparted is true to nature. There are no garnishings, the actual findings alone being recorded. Those individuals looking for value received for their money will not be disappointed in the acquisition of this book.

THE TREATMENT OF SYPHILIS BY THE EHRLICH-HATA REMEDY
(Dioxydiamido-Arsenobenzol.) A Compilation of the Published Observations by Dr. Johannes Bresler, Chief Physician to the Provincial Medical Establishment at Lueben, Silesia. Second edition, much enlarged, with the portraits of Ehrlich and Schaudinn. Translated by Dr. M. D. Eder, with an abstract of the most recent papers. London and New York: Rebman Company. 1911. Cloth, \$1.00 net.

The English-speaking race is indeed fortunate in having at first hand the results of the labors of Doctor Ehrlich, and at such a ridiculously low cost. The present monograph contains a collection of observations on 606. The proof of the need of such a pamphlet is no better illustrated than by the fact that four weeks after the appearance of the first edition a second was demanded. We glean from this publication that Ehrlich favors the intravenous injection of 0.5 gramme of 606 as routine practice rather than intramuscular injections. He recommends that syphilitic diseases of the nervous system be treated with the greatest caution. Indeed, it is the consensus of opinion of those with the greatest experience that 606 has a somewhat limited scope, and that cases should be selected with the greatest care upon whom this drug is given. Because recrudescences occasionally occur, do not judge too hastily that 606 is wanting in virtue. Neiser is of the opinion that this state of affairs comes from too small doses. The present volume is absolutely indispensable to syphilographers.

PSYCHE. A Concise and Easily Comprehensible Treatise on the Elements of Psychiatry and Psychology. For Students of Law and Medicine. By Max Talmey. 1910. New York: The Medico-Legal Publishing Company. Cloth, \$2.50 net.

This book is intended to awaken an interest in the rudiments of psychiatry in the medical student and the general practitioner. The author is indeed correct when he states medical schools pay far too little attention to this branch of medicine. In the future a well-rounded medical course must and will include a course in psychiatry, at the termination of which the student will be compelled to stand an examination and show a reasonable acquaintance with insanity. Today practically no medical schools in the country require an examination in psychiatry, and those which devote any time to insanity in its various aspects do not demand of the student

that he perfect himself in it. It is a crying shame that the family physician is so ill prepared to cope with insanity and to recognize mental instability in its incipiency, for it is at this period that properly instituted treatment may restore a useful member to the community. If the present volume contributes toward the solving of this perplexing question, it will have justified its publication.

DIFFERENTIAL DIAGNOSIS. Presented Through an Analysis of 383 Cases. By Richard C. Cabot, M.D., Assistant Professor of Clinical Medicine, Harvard University Medical School, Boston. Profusely illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Company. 1911. Cloth, \$5.50 net.

The writer has not included obvious maladies, such as gangrene, tonsilitis, etc., and those cases in which diagnosis is made only by incision, such as certain breast tumors, etc. The writer says that diseases present certain leading symptoms, as cough, pain, nervousness, etc. It is the duty of the diagnostician to differentiate one disease from another, to cull the essential from the unessential, to weigh each symptom and finally by a process of elimination to arrive at a logical diagnosis. There are many border-land diseases which will tax the skill of the diagnostician to the utmost. This book was written for the very purpose of helping to tide over these difficulties. The book is written in the form of case histories, with the process of reasoning employed to arrive at a diagnosis. It is well written, the style is pleasant, and the therein contained information is exceedingly valuable. It is a successful effort to produce something worth while, and is undoubtedly assured of an immense success.

MAKERS OF MEN: A STUDY OF HUMAN INITIATIVE. By Charles J. Whitby, M.D. (Cantab.) Published by Rebman Company, 1123 Broadway, New York. 1911. Cloth, price \$3.00 net. Forty-seven illustrations.

In this most interesting psychological study of the strength and weaknesses of the great men who have contributed heavily to the world's history, the author divides all men into four classes—the practical, the esthetic, the intellectual and ethical, though in the last chapter he decides that the "new type of greatness adumbrated by such men as Whitney, Tolstoy, Nietzsche, Weininger and Shaw is hardly classifiable as practical, esthetic, intellectual or ethico-religious. It is all these together, and an undefinable something beyond these. Perhaps what we call "personality" best suggests my meaning. The chapter in the book which will appeal most to the medical mind is the one on the physical characteristics of the men of the different types. He believes that the men of action and the artist, physically speaking, have the advantage of the intellectual and ethico-religious

man in most all respects. "The intellectual man is, on the average, of mediocre or inferior stature, physique and health." The author believes that "inborn qualities are of much greater import in deciding the career than educational or environmental conditions;" that great qualities and great defects are closely related, and that the relation is essential, that great men are upon the whole long-lived, that intellectual men have the longest lives, and men of action the shortest, and that the genius of great men is commonly traceable to a feminine source, the mothers and grandmothers of great men nearly always being remarkable women. While many of the author's deductions force a combative state of mind, the book is well worth while.

QUIZ-COMPENDS—COMPEND OF GYNECOLOGY. By Wm. Hughes Wells, M.D., Associate in Obstetrics in the Jefferson Medical College; Assistant Obstetrician in the Jefferson Medical College Hospital; Fellow of the College of Physicians of Philadelphia, etc. Fourth edition, revised and enlarged with 153 illustrations. Published by P. Blakiston's Son & Co., Philadelphia. Price \$1 net.

The fourth edition is a condensation of the various teachings and does not follow any one school. It is thoroughly up to date, and the author has wisely eliminated from the work several operations and methods of technic which are now out of date. It is clearly written, and when used in conjunction with the Standard text-books on gynecology by either students preparing for final examinations or by physicians as a review for State Board, it is one of the best of its kind.

GOLDEN RULES OF DIAGNOSIS AND TREATMENT OF DISEASES. APHORISMS, OBSERVATIONS AND PRECEPTS ON THE METHOD OF EXAMINATION AND DIAGNOSIS OF DISEASES, WITH PRACTICAL RULES FOR PROPER REMEDIAL PROCEDURE. By Henry A. Cables, B.S., M.D., Professor of Medicine and Clinical Medicine of the College of Physicians and Surgeons, St. Louis; Consultant at Jefferson Hospital, St. Louis; Formerly House Physician at Alexian Brothers' Hospital, St. Louis; Member of the American Medical Association, Illinois State Medical Society, etc. St. Louis: C. V. Mosby. 1911.

The book is entirely too sketchy to accomplish any useful purpose. The trend of the times is to pay too much attention to one prominent or a group of more or less prominent symptoms rather than a judicious consideration of the entire symptomatology. This book would only accentuate the habit, and can do nothing but lead to superficiality.

DIURETIN. New York: Knoll. 1911.

This is a brochure devoted to the chemical, physical and physiological properties of diuretin.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, APRIL, 1911

THORACIC SURGERY.

UNTIL quite recently thoracic cavity surgery has been a bugaboo to the surgeon on account of the possibility of acute pneumothorax followed by collapse of the lungs. Today, however, there has been a marked advance in this field of surgical endeavor which has been brought about through the work of Sauerbruch, Professor of Surgery in Zurich, who has perfected measures which equalize the pressure within and without the lungs. This happy result he obtained by placing the patient in an air-tight chamber with the exception of the head, which is outside. It is then entirely safe for the surgeon to make an incision from the spinal column to the sternum through an intercostal space if a negative pressure has been brought about within the chamber (Meyer, *Post-Graduate*). This discovery has proven the key to thoracic surgery, and today any surgeon who desires to attack the thoracic cavity can do so with impunity if he possesses the requisite apparatus.

The negative pressure box has opened up a new avenue of surgical endeavor, and within a very few years the contents of the thoracic cavity will be subjected to direct inspection whenever necessary, and with as little concern on the part of the operator as he now possesses when approaching an abdominal operation.

THE LUMBO-SACRAL ARTICULATION AS AN ETIOLOGIC FACTOR IN LUMBAGO.

DISPLACEMENT of the sacroiliac joint as a cause of lumbar pain has been and is at the present time overlooked by the general physician. This is no doubt due to the fact that injury of this joint, owing to its strong ligaments, is supposed to be a medical

rarity. Such, however, is not the case, and through the studies of Goldthwaite of Boston attention has been recently directed to the comparative frequency of dislocation at this articulation as the real seat of trouble in many of the obscure cases of so-called lumbago. The patient usually gives a history of having lifted a heavy object, thereby straining his back, followed by severe lumbar pain, which necessitates the summoning of a physician, who, after a more or less thorough examination, diagnoses the trouble a sprained back, bruised muscles, etc.; whereas, if trouble had been taken to thoroughly investigate the sacroiliac articulation, there would have been no difficulty in determining mobility of the joint to be the cause of the pain. In some instances the displacement is marked and not at all difficult to ascertain, while in others the separation is very slight and extremely hard to detect. Therefore, in every instance of sacral pain do not fail to thoroughly investigate the sacroiliac synchondrosis as the probable seat of the trouble.

EDITORIAL NOTE.

THE contents of the latest volume (Volume I, twenty-first series) of *International Clinics* contains so many contributions of more than ordinary merit that we are constrained to give it a more prominent place than ordinary. Much space is allotted to the latest developments in medicine and surgery, such as pellagra, contribution on 606, the most recent investigations in poliomyelitis, open treatment of fractures, duodenal stenosis, mosquito work in the Canal Zone, lateral anastomosis of femoral artery and vein, etc. The character of these articles certainly should command the most careful attention of the general reader, especially the article of Wechselmann on 606. This paper is written by an expert in syphilography, and contains the very latest investigations in the administration of 606. He states that in 606 we possess a most potent remedy for syphilis—one which is superior to mercury, and in some respects irreplaceable.

Medical Items.

DR. DANIEL ST. THOMAS JENIFER, formerly of Atlantic City, N. J., has located in Towson, Md., where he will practice.

DR. GEORGE W. DOBBIN was awarded \$3000 damages for injuries received in a recent automobile collision.

IN THE erection of the new State Insane Hospital for Negroes at Crownsville, near Annapolis, much of the labor is being done by negro inmates of the various asylums of the State.

DR. PAUL OLDENBOURG, a director of the Gina Coglich of Munich, Germany, was the guest of Dr. George Reuling of Baltimore on March 18, 1911.

THE Ladies' Auxiliary of the Mercy Hospital is working hard in an endeavor to raise \$300,000 to defray the expenses of the construction and furnishing of the addition to the Mercy Hospital at Calvert and Saratoga streets.

THE medical department of the University of Maryland has appointed a committee composed of Drs. Arthur M. Shipley, John C. Hemmeter and Randolph Winslow, chairman, to arrange the details of a campaign to raise funds sufficient to endow a chair of pathology in the medical school.

THE diphtheria situation in Baltimore is now well under control. Patients are being discharged and no new cases are reported.

THE Baltimore City Health Department reports one death from pellagra in March. This is the second death from this cause in Baltimore, the first victim having been an Eastern Shore resident visiting here at the time.

DR. ERNEST H. GAITHER will sail for Germany on April 1, where he will take a course at the University of Heidelberg, later traveling through European countries.

DR. MAX KUNSTLER will make his home at 2701 Eastern avenue.

DR. W. CUTHBERT LYON has resigned his commission in the United States Army Corps,

owing to ill health, and has returned to Baltimore, where he will open an office.

DR. RICHARD C. MASSENBURG of Towson, who has been ill, has entirely recovered.

DOCTOR AND MRS. ROLAND B. WHITRIDGE and family, who have spent the winter at the Stafford, sailed March 28 on the steamship Cincinnati for Genoa. After a visit to Italy they will spend the summer in the Austrian Tyrol.

DEATHS.

DANIEL C. BADGLEY, M.D., died at his home in Simpson, W. Va., March 8, 1911, of cancer, aged 80 years.

DAVID MARSHALL DEVILBISS, M.D., University of Maryland, '72, died at his home at Woodville, Frederick county, Md., February 14, 1911, of nephritis, aged 66 years.

WILLIAM C. KARSNER, M.D., Jefferson College, Philadelphia, '53, died at his home in Chesapeake City, Md., March 26, 1911, of heart disease, aged 80 years.

REV. CORNELIUS L. KEEDY, M.D., University of Pennsylvania, '63, died at his home in Hagerstown, Md., March 25, 1911, of heart disease, aged 77 years. Dr. Keedy had been for twenty-five years owner and president of the Hagerstown Seminary, afterwards Kee, Mar College.

HENRY M. SHAW, M.D., of Shawboro, Currituck county, N. C., Washington University School of Medicine, '71, died suddenly on February 9, 1911, while aboard a Grant Line steamer bound from Norfolk to Knotts Island, N. C. Death was due to apoplexy.

HENRY S. ABENDSCHEIN, M.D., died at his home, 424 North Calhoun street, Baltimore, March 1, 1911, of paralysis, aged 52 years.

DAVID W. JONES, M.D., of Hagerstown, Md., died at Bellevue Hospital, Hagerstown, March 5, 1911, aged 84 years.

ALFRED L. WOLFE, College of Physicians and Surgeons, '77, died at his home in Roanoke, Va., March 1, 1911, of tuberculosis, aged 57 years.

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THE PROFESSION OF MEDICINE AND ITS RELATION TO THE STATE.*

By *Franklin Buchanan Smith, M.D.*,
President Medical and Chirurgical Faculty of Maryland.

A PROFESSION is an occupation that properly involves liberal education or its equivalent, and mental rather than manual labor. Especially one of the three so-called learned professions—medicine, religion and law. "Nothing is more certain," says a prominent writer, "than the essential identity among all ancient nations of these professions, which the progress of civilization has separated into three."

Many years before Hippocrates of Cos, the reputed Father of Medicine, we find evidences, such as the Papyrus of Ebers, monuments of the antiquity, culture and learning of the profession of medicine. In writings sacred and profane have the virtues of and the honor due our profession been extolled.

"My son, in thy sickness, be not negligent * * * give place to the physician, for the Lord hath created him," were the words of a writer of wisdom long before the Christian era, and believed by many to have been inspired. However, it is not necessary to quote authorities to establish the proof of the antiquity nor the right of medicine to be classed a learned profession. It is established beyond question and beyond controversy. Its high and unselfish aim, the purity of its teachings, the self-sacrifice of its devotees and its absolute necessity to society, however, do arouse a feeling of wonderment that it has been of so little influence in matters of public weal, in the framing of laws for the government of the State and in the initiation and execution of those charities demanded by modern civilization.

Disclaiming the intention, in the slightest degree, of underestimating the value in this field of another profession ever present

*President's annual address to Medical and Chirurgical Faculty of Maryland, April 25, 1911.

with us, always alert in public matters to champion its own right, to estimate at their fullest value its virtues, condone its weaknesses, its fallacies and its sophistries, we find in its organization aggressiveness and its ability much to imitate and to emulate.

The law is a necessity as absolute to secure and protect the individual and society from the violence and injustice of the evil-disposed as medicine to protect the same individual and society from the consequences of their ill-advised, intemperate and imprudent indulgences, to temper the uneven and unyielding forces of natural law, and often to avert, or, for the time, annul the swift judgment of her sentence for accident or disobedience. True law, born of common sense and reason, is man's relief from the injustice of his fellow-man. Pure medicine, founded upon knowledge and inspiration, is some higher power's earthly relief from the pangs of immutable law.

It is not against the more or less imperfect, but none the less necessary, conglomera of rules and regulations imposed by society upon itself and upon the individuals composing communities, nor against the exponents of a noble profession, that we wish to raise our feeble voice, but against the undue prominence accorded to our brothers of that profession for small and sometimes imaginary services to the public, and to call attention to the more or less stinted praise and grudging reward accorded to the medical man for unselfish labor for the good of humanity. We do wish, with the earnestness of firm conviction and all the power of which we are possessed, to endeavor to stimulate in the profession sufficient pride and resolution, begot of self-confidence and preparation, to cause them to cease assuming indifference or the defensive in matters of public interest, such as health and sanitation, pure food, education and the conservation of mental and physical energy.

In these they should lead and dominate the laity at the same time, taking in all other matters of consequence to the State, the position their knowledge and experience may entitle them. Our practice is too continuously and unceasingly upon the individual; it should take a wider range, grasp greater subjects, such as pertain to the protection and elevation of society—subjects embracing the prevention of disease and the best means of overcoming ignorance and opposition. More of the profession not compelled to keep at the plough, at the forge or the wheel, should spend their time in the study of the greater problems of legislation, in the formation and moulding of public sentiment to have faith in their propositions for the good of the State. The lofty altruistic aim, the attempt of our profession to reach heights of attainment never before dreamed of, frequently expose us to the ridicule of those who, because under certain circumstances with the certainty of the logical relation of cause and effect wonderful results are attained, are spoiled and changed from extreme credulity to cavillers and cynics when failure follows their efforts to apply the square of precision and the rule of infallibility to the entire science of medicine. If personal pain and humiliation were the sole result of

these attacks we could dismiss them with the contempt we feel for the unfair criticism and opposition of the pessimist and cynic to every advance of science; but, unfortunately, these attacks, emanating as they often do from our own ranks or from the ranks of the other learned professions of law and theology, serve to convince the general public and alienate them from us, rendering the pursuit of our aims more difficult.

These criticisms must be carefully handled; all the more carefully should their basis be founded upon a *scintilla* of truth.

While we should boldly strive to maintain the excellence of our calling, the superiority of its goal and its attainments over those of other liberal professions, we should fully equip ourselves to apply the same tests of critical judgment to our detractors. We should be able to prove to them that it is not because we are lacking, but rather inability upon their part to recognize the fundamental principle that, while truth and facts are the foundation stone of all science and professional learning, it is possible sometimes to err; to show that, while all knowledge is imperfect, no peculiar imperfection can be applied to medicine which does not affect with greater force the professions of law and theology.

Again, early in any criticism containing an element of right and justice which jeopardizes an important avenue to higher research and knowledge, even though this grain of truth be exaggerated and obscured by unlicensed sentiment, we should be shrewd enough to deal with it in a fair and diplomatic manner and with a reasonable consideration for the motives actuating our opponents. For instance, in the present crusade against vivisection there is just enough truth and justice to cause the profession to set themselves to work to remedy the weak points upon their side and by tactful means forestall the foolish and radical interference of an unduly sensitive laity.

On the one hand, no one endowed with the power of observation and reason can deny that the best study of mankind is man—of animal life is through experimentation upon that subtle force or reaction between the outside material world and the nervous interior organization of the animal which we call “life.”

The value of experimentation upon living man and upon the lower animals is so evident it is incompatible with our ideas of good education and common sense to deny it; but, on the other hand, a fact which we should equally appreciate is that under the present development of modern civilization no preventable pain, cruelty or torture to man or lower animal can be tolerated. Therefore the sensible, not fanatic, opponents of vivisection must be squarely met and convinced with overwhelming proof of its necessity and its benefits, while the reasonable prejudices and fears of humane people must be allayed by such restrictions as will make it a certainty that these experiments are never unnecessarily performed or needless pain inflicted.

We should appreciate that vivisection is necessary and presents glorious opportunities, but it should be practiced as a privilege

fraught with responsibility, not as a right, and in its performance should be subjected to the strictest supervision of intelligent, competent censors—judges both of the reasonableness of the ground for the experimentation and guarantors to the public of avoidance of unnecessary repetition of identical experiments, of pain and cruelty in their execution. The rapid strides made in the education of the public to a realization of the wide zone of influence over which the profession of medicine should exert exclusive jurisdiction, of the many subjects of public utility and policy in which the influence of medicine should predominate, and the almost universal betterment of all matters of public economy by the assistance of the skilled medical statesman and patriot, have been no less than wonderful since the reorganization of the profession under a plan of co-operation and a centralized representative national body.

A subcommittee of the American Medical Association in 1909 enumerates many of these fields of labor, and I would recommend the perusal of the report of the Westbrook Committee on Hygiene, Medical Jurisprudence and Medical Economics to every medical man who desires his chosen profession to rise above an art and attain the goal within its grasp.

"The medical profession," says this report, "is beginning to realize that 'minding one's own business' may be overdone, and that the glory of having reduced 'aloofness' to a fine art does not compensate for the resulting loss of power for good."

And again: "In a number of important lines modern economics and social development offers logical leadership to medicine, but unless the opportunity is fully appreciated and due preparation made therefor, medicine will be forced to co-operation under other and less natural directorship. The high place of medicine in the world's work is now generally recognized, and we should anticipate a constructive period where medicine combines its former willing service to the sick with a new function of private and public teaching in the prevention of sickness."

Other professions, educators and workers interested in the welfare of the State must be drawn into their proper relation to us and such mutual educative co-operation secured as will bring about harmonious but well-rounded and developed schemes of advancement. The mutual dependence of public health and sanitation upon the medical man and the engineer, the relationship of medicine to law, and of law to medicine for the public good, is most intimate, and the time is ripe for great improvement in many fields of jurisprudence through the aid and co-operation of medical thought.

Organized charity, public and private: education, general economics, all offer more inviting fields of usefulness and glory for the progressive medical man as specialties than the overcrowded ranks of surgery, obstetrics, gynecology and general practice.

Many of the clumsy and extremely radical efforts of the public to secure a beneficent end by the aid of intelligent medical counsel might be so modified and improved as to bring about the desired

result without endangering fundamental principles of personal liberty and the enactment of class legislation and unequal laws.

The subject of the control of the evils of intemperance by the restriction of the manufacture and sale of the so-called intoxicants has been before the public for a long period. Much time, money and energy has been spent by able and earnest men known as prohibitionists, advocates of high license, anti-saloon leaguers and pledge enthusiasts. The results of their efforts have been more or less irritating and unsuccessful.

The profession, it seems to me, has never taken in this great question of vast economic and social importance the part it should. This matter has been treated as a religious or political question, or as a question of morals, or of economics. While in reality it is all of these, in its more essential aspects it is, above all, a medical question. Intemperance, so far as it concerns the public, is a condition which should be capable of solution without infringement upon the rights and liberties of the individual.

By the light and aid of medical knowledge, through the proper appreciation of the borderland, the line of demarcation, as it were, between the possession and the loss of will power, will be made possible the formulation of laws, salutary and effective, in eliminating drunkenness without restriction of the rights of the temperate.

The right to the temperate use of alcohol we believe should not be abridged by public enactment. Its immoderate use, where it infringes upon the rights of others in public or private, should be prevented. The line between the same—temperance and intemperance—is the line between liberty and license in all public matters. Liberty becomes license when its pursuit infringes upon the rights of others, whether it be in family or in public. The "public drunk" should be a misdemeanor and punished fearlessly by police regulation. Only as a citizen should this concern the medical man, as we take for granted that it is a voluntary, wilful, foolish indulgence, with the ability of the culprit to have avoided the crime by due exercise of a normal will. With the next phase, however, both as a medical man and as a good citizen he should exercise a dual rôle. The "frequent drunk," evincing a diseased and impaired will power, requires the safeguards of the weak-minded, the undeveloped mind, the minor—those not capable of exercising critical judgment and will power in self-restraint. This class should be registered by legal procedure, and anyone giving, selling or permitting the use of intoxicants within their sphere of authority to those thus marked should be held punishable as parties to the misdemeanor.

Ignorance of those who might be under this ban would cause great restraint upon the public in general. Lastly, the constant drunk, the inebriate with the total abolition of critical judgment, of will power to withstand temptation, is entirely a medical question, and as such should be treated by confinement by the State, where proper care may be given until a cure is effected.

In the administration and disbursement of its public charities, however, the State needs counsel more than in any other of its departments.

Our Legislatures in these days are lavish in their expenditures of the public money, and consequent acts of injustice, inequality, waste and extravagance are often committed by them. Be it said to the credit of our State, as yet these faults have been unaccompanied by suspicion of graft.

In the dispensation of these charities and in the execution of these trusts the medical profession are directly interested both as medical men and as citizens. And it is up to us to devise ways and means to get for the people the most good from these largesses. Standardization and co-operation without politics is here needed. Some scheme based upon other foundation than political "pull" or expediency must be formed. Some honest difference of opinion may exist as to the necessity of politics and spoils (meaning the distribution of appointive offices) in the management of certain departments of State, but in the distribution of its charities and in the education of its children and people there can be but one opinion—that neither politics nor sectarian religion should have a voice.

The time is fast approaching, we hope, when, under the well-directed, moderate but firm force of educated public opinion these matters will be withdrawn from the power of politicians.

The last, instead of the first, requisite of fitness for members of public commissions will be their political records and influence. Here is our opportunity. There is no commission in the State which has to do with the regulation and dispensation of public charities which can be in its highest sense effective without the predominating influence of skilled and non-partisan medical men.

Public money should be disbursed only for value returned. Commissions should be appointed because of merit and especial fitness, and the choice of selection should be delegated to representative bodies of the professions and to such authorized philanthropic bodies as take especial interest in the particular work for which these boards are designed. They should be vested with great power.

The licensing or chartering of hospitals should be entrusted to this sort of control, with power to prescribe the standard of equipment and service, without which they lawfully could not prosecute their work; to supervise their work, to renew or revoke, for cause, the authority by virtue of which they exist. They should divide from one general appropriation the amount due each, according to the per diem of charity patients or other return made to the State.

Those in charge of education, so far as medical education is concerned, should possess the same power of licensing and revocation, prescription of the standard of qualification of entrance, a standard curriculum, pass upon the equipment, the personnel of the corps

of teachers, and everything pertaining to such management and control of the same as would secure equality of standard.

These commissions should report to the Legislature, and, being paid by the State, should be rigidly accountable for the faithful and skilful execution of their duties.

They should be given, subject to the supervision of the courts in legal matters, as full power as is consistent with public safety. If possible, these bodies, through mutual understandings after due deliberation, should be empowered to contract agreements with other States for similar standards of education, thus forestalling national legislation to overcome the inconveniences of State lines, and nationalizing our system of medical education without infringement upon that zealously guarded principle, "State's rights."

This is entirely too comprehensive a subject to be embraced in a short paper, and open to criticism, no doubt, at many points, especially our remarks on vivisection and on temperance. They are only to be taken seriously in the light of illustrating, by the first, our vulnerability to attack when we do not promptly heed educated public sentiment; by the second, how intimately related some economic and social problems are bound up with our duties and responsibilities to the State as medical citizens.

The whole subject, on the one hand, narrows down, however, to the dependence of the State for the intelligent administration of many of its chief duties to its inhabitants upon the intelligence, skill and good judgment of its medical men; on the other, to the realization of liberal-minded, properly educated and public-spirited medical men of the great responsibilities of medical statesmanship—responsibilities which they were wont in the past to avoid, which at present they assume, and which in the future they will use to acquire the standing and pre-eminence in affairs of State so earnestly to be desired and so fraught with good to the community.

Let no selfish motives enter into our deliberations for the public good, and we cannot fail by a systematic and organized education of the laity to gain the power. Until a common standard of educational requirement for entrance into a standardized medical school, and a standard curriculum which, when completed, is followed by examination of equal requirements, is obtained, we should not be satisfied.

No standard of excellence should be too high for our requirements for our representatives upon boards of public health and sanitation, lunacy, and particularly for our State licensing boards.

Our efforts should be for higher standards of attainment for our profession, a more general and more discriminative education of the laity in medical matters, greater predominance of influence by means of better men upon our State boards, a general standardization secured through organization, co-operation and agreement through the representatives of our national association leading to uniformity of State legislation rather than through national laws.

“FINANCING OF STATE BOARD WORK.”*

By *Herbert Harlan, A.M., M.D.*,

President of the Board of Medical Examiners of Maryland.

CERTAIN expenses are necessary in conducting medical-board examinations, such as rent of suitable halls, with individual tables, clerk hire, postage, stationery, printing, mimeographing, etc.; pay of counsel, both for legal advice and in defense of the medical law and for the prosecution of parties transgressing its provisions; pay of enough good watchers at the examinations, and, if the so-called practical examinations are introduced, as I hope they will be, the expense of conducting the examinations will be considerably increased; and, lastly, the proper remuneration of the secretary and members of the board.

How can the money for these expenses be best provided, and by whom can its control and expenditure be best directed, is, I understand, the subject under discussion.

Time will not be wasted, at least just now, by taking up what the writer may consider an ideal medical-practice act and an ideal examining board. But let us look for a moment at matters as they are at present.

The chief source of revenue of State boards is, of course, the fee charged for the examination. Next is the fee for recognition of a license from another State, which appears to vary from \$2 to \$50. Then there are in most States charges for the filling up the reciprocity blanks certifying to the possession of license and attesting the same before a notary public.

There are 22 State boards who exact a fee of \$10 for their examination, 14 others who charge \$25, 9 who ask \$15, and 5 charge \$20.

The amount of money handled varies greatly in different States, according to the number of applicants examined. The three boards of Pennsylvania, for example, with a fee of \$25 and 513 applicants in 1910, received \$12,825 for examinations alone. Wyoming, with a fee of \$25 and 11 applicants, from the same source took in only \$275.

I think all the laws direct that expenses are to be paid from the money received. A number take care to state that no money is to be taken from the treasury for this purpose, but I found one (Nevada) which provides in case of a deficiency it may be paid out of the State treasury.

In reference to money in excess of what may be necessary for expenses, many of the laws are not very clear. Some of them, even those receiving the largest fees and examining the largest number of applicants, state that after paying all expenses the surplus is to be divided among the members of the board. Some others name a per diem as low as \$4 and expenses, and the surplus

*Read at the Seventh Annual Conference of the American Medical Association on Medical Education and Medical Legislation, Chicago, March 1-3, 1911.

to be turned into the State treasury. Some give liberal power to the board to determine the remuneration and expenses, and the surplus, if any, is to be turned into the treasury, the natural inference being that there is not much surplus to be turned over to the State. A few others are silent as to the disposition of the funds, the presumption being that the intent was that the board should dispose of the money as it might think best.

All the medical-practice acts are supposed to be passed for the welfare of the general public. I have never heard of any public asking for their passage. They were prepared, urged, fought for by our profession, and I know of one State, at least, where the motive inciting those of us who were instrumental in the passage of the first law in that State was the raising of the standard of medical education. The public welfare was secondary. I suspect this may have been the case in most States in the beginning. However that may be, the two things unquestionably go together and great progress has been made in both.

The constitutionality of the laws has always been affirmed by the courts on the ground that they come under policing power. They protect the people from harm. It would seem, therefore, to be only reasonable that all the people should pay their share of the cost and that the money should be appropriated from a State treasury directly. Was it right or just that those 513 doctors should have been made to pay in 1910 that \$12,825 for the protection of the people of the rich Commonwealth of Pennsylvania? The burden has heretofore fallen entirely on the doctors themselves, chiefly on those just entering the profession, but also to a considerable extent on those who have changed their location from one State to another. As to the ability of the former to bear the burden, I have recently written to the deans of 15 medical schools situated nearest to my locality, asking them this question: "Does your contact with the students enable you to form an idea of about what percentage of them at the time of graduation are at the end of their resources or actually in debt?"

Thirteen replies received make it plain that a large number of medical students, probably 30 per cent., are in debt and a large majority at the end of their resources at the time of their graduation. One of the schools has dropped the graduation fee of \$30 in order that the students may devote that money to a State-board examination.

If the present plan of financing our work is to be continued, it would seem that the fees charged for the examinations should be made as low as is compatible with the amount of money necessary to be expended. I am strongly of the opinion, on the other hand, that all proper expenses for conducting the examinations should be liberally provided for; that the secretary, who we know is usually about nine-tenths of the board and whose work is onerous and exacting, and whose correspondence often requires great tact as well as experience, should receive a liberal salary, of course in proportion to the size of the State which he represents, his labors

being much greater in the more densely populated States and particularly in those having a number of medical colleges. In reference to the remuneration of the members of the boards, I do not believe the best interests of the public and of the profession would be served by having members of the board too liberally paid. Some compensation is surely due them, but when the places are much sought after there is less likelihood of the places being well filled than when the place seeks the man, and a really busy doctor will not serve on any board merely for any amount of money he is likely to be paid. Many good men will, however, do State-board work from a sense of duty. If I were asked for definite figures, I would say a per diem from \$15 to \$25, with an allowance of from 25 cents to 50 cents for each book examined, together with expenses. If the right sort of men are on the board, the finances can be left safely in their hands. If there is doubt whether the right sort of men will be put on the board, then Legislatures might think it wise to specify definitely just what they may do and what they may spend. But I have always held that medical laws should be framed in such a way that the best possible board would be selected, and that such a board should have the greatest freedom in administering the law according to its best judgment. Rulings of the boards can be changed without difficulty. It is often very difficult, and sometimes dangerous, to try to get a law amended.

The objection to the financing of State boards by the State is the difficulty in arranging for a liberal expense account under the control of the board. For example, would the average controller pass the voucher for a per diem and traveling expenses of a representative of a board to attend such a meeting as this one? Again, the State law officers would surely be expected to act as counsel in defending suits and pushing prosecutions. Many State's attorneys have shown themselves to be, if not hostile, at least very indifferent in regard to enforcing medical-practice acts. In my own State we had great difficulty on this point even though we had our own attorney to aid us.

So that, finally, it is my opinion that the best results would come from leaving the distribution of the funds entirely with the boards. In certain States where the amount is large, larger than is needed for all expenses and for reasonable compensation of the secretary and members, as the money all comes from the doctors there could be no serious objection to having the surplus turned over to the uses of the State medical society.

DAWN OF THE FOURTH ERA IN SURGERY. By Robert T. Morris, A.M., M.D. Published by W. B. Saunders Company, Philadelphia and London. Price \$1.25 net. Half cloth. Baltimore: Medical Standard Book Co. 1910.

One of the new surgeries gotten out by the Saunders Company.

THE MEDICAL FATHERS OF BALTIMORE COUNTY, MARYLAND.*

A BIOGRAPHICAL SKETCH OF DR. WILLIAM G. BODE,
WHO PRACTICED "CLEAN SURGERY" IN 1854.

By William J. Todd, M.D.,
Mt. Washington, Md.

IN writing a series of biographical sketches of the physicians of Mt. Washington and other parts of Baltimore county, Maryland, I have taken up the self-imposed task from a sense of duty I owe these old country doctors. I stand hat in hand, with bowed head, to do reverence, honor and justice to the memory of these physicians. Some of them, perhaps, today would be called ignorant, but I feel sure their training was equal to, if not excelling, that of the average medical man of their day, and I am sure that with the natural ability and large-heartedness of these men they did more to relieve the sick and afflicted from a sense of duty than many of the more scholarly and better-equipped men of later days. I also feel sure that many country doctors of bygone days, in addition to their natural ability, were well educated, both as regards their preliminary education and their medical education. I am surprised at their successes, and I am more than surprised at the number who were on the border line of new truths—almost touching discoveries, almost over the boundary into the promised land of truth—and yet, like Moses, viewed it from a distance, failing to realize, failing to enter. I wish a gifted pen would trace the influence of the thoughts and words and works of the old medical men—trace the seed thoughts developed despite the empiricism and superstition of their day by the march of progress, to burst forth, full blown in the full light of advancement, to benefit and enrich mankind in this our day and generation. I am reminded that in many places we have not improved much on our noble heritage. I fear, in many instances, we do not realize and acknowledge how much of an inheritance we have, and are using and considering it of our own making, the result of our own thinking. I quote from Sir William Roberts' Harveian Oration, delivered before the Royal College of Physicians, London, October 18, 1897, and copied from "Flame, Electricity and the Camera" by George Iles, folio 387: "But the pupil of a scientific discoverer starts where his master left off, and, even though of inferior capacity, can build upon his foundations and pass beyond him." * * * * "The discoverer of today need not be more highly endowed than the discoverer of a hundred years ago; but he is able to reach farther and higher because he stands on a more advanced and elevated platform built up by his predecessors." I repeat, all honor and all credit are due these old physicians, these old country doctors.

*Read before the Baltimore City Medical Society, April 4, 1911.

Where I have been able I have added the line of treatment they followed, much of which is on the same lines we follow today.

Dr. William George Bode was born at Clausthal, Hartz Mountains, Prussia, September 5, 1800. He was educated at the University of Clausthal. At about twenty years of age he was sent to the University of Berlin, and spent seven years preparing himself to practice medicine. He remained in Berlin two or three years, and was sent on a special mission by the Prussian State to Washington, D. C. What that special mission was has not been discovered. Here he met his future wife, Miss Annie Hasselhoff. She



WILLIAM GEORGE BODE, M. D.

came from Bremen to Washington, D. C., on a three-mast sailing vessel in charge of her uncle, Captain Nepker. I relate the following incident for two reasons—first, the romance connected with it, and second, to show Dr. Bode's treatment of smallpox.

Miss Hasselhoff sent her laundry to a colored woman. She not returning it in a reasonable time, Miss Hasselhoff started to get it. Upon arriving at the colored washerwoman's home the stench was so offensive coming from the door that she stopped before entering, to be told by one of the inmates, "we have smallpox." The linen was secured, and in a short time Miss Hasselhoff devel-

oped smallpox, and her uncle sailed away, not being able to remain in Washington until his niece recovered. Miss Hasselhoff was left in the care of Captain Nepker's friends, who called Dr. Bode to care for the patient. I learned from Mrs. Carl Bersch, daughter of Dr. Bode, and Miss Hasselhoff, afterward his wife, that her father covered Miss Hasselhoff's face with a mask made from the skin of a boiled ham. Mrs. Bersch assured me that her mother was not pox-marked. Where is the physician who could get a better result today?

Later Dr. Bode married his patient, and she survived him, dying August 5, 1876. A son was born to Dr. Bode and his wife, but died in infancy. Mrs. Carl Bersch, the second child and only daughter of Dr. Bode, is still living in Baltimore city. A second son, William Selmer Bode, established the Bode Pharmacy, corner Light and Montgomery streets, Baltimore, and died May 23, 1888. Dr. Bode remained in Washington, D. C., about 10 years, residing on D street, near Pennsylvania avenue, then a desirable residence section.

When Dr. Bode graduated in Berlin the water-cure treatment was in vogue, and Vincent Priessnitz was the apostle. Dr. Bode became an ardent disciple, and brought his enthusiasm to the United States. Dr. Bode having interested a Frenchman by the name of Pêtre, they established a "water cure" about 1846 or 1847 in the Green Spring Hotel, in the Green Spring Valley. Mrs. Bersch told me the journey was made from Washington to the Green Spring Valley in a buggy when she was about two years old. She recalls the one-horse cars on the Green Spring Valley Railroad.

Through the kindness of Messrs. Paris L. Ruby and James E. Dunphy of the Baltimore County Union, I was able to copy the following extract from the files of the Baltimore County Advocate, from Vol. V, No. 1, July 8, 1854, E. F. Church, editor, published in Towson town, Md.:

"It becomes our painful duty to record one of the most horrible railway accidents that has ever occurred in the country. It took place on Tuesday, July 4, 1854, on the Baltimore & Susquehanna Railway, about midway between Rider's Switch and the Relay House, a little over two miles from this place." (There had been a Fourth of July celebration and picnic by the "Know-nothings" at Rider's Grove, which is now known as Sherwood. Mr. John E. Tooles of Baltimore is my authority for this item of information.) "A few minutes after 5 P. M. the excursion train coming south in charge of Mr. John H. Scott, and an empty passenger train going north in charge of Mr. William D. Scott, a brother to the first conductor, through the disobeying of orders; the road at the time was a single track, they had a head-on collision, in which 34 were killed and between 60 and 70 wounded."

"My object in relating this terrible accident and incorporating it in Dr. Bode's biography is to prove, if I can, that Dr. Bode was far in advance of his age, and that he practiced "clean surgery" at a

time when the medical profession was anxious to see "laudable pus" in the wounds of its patients.

The following quotation is also taken from the Baltimore County Advocate of July 8, 1854: "John H. Scott's left ankle is badly crushed, his right thigh was broken and he also received severe bruises, both external and internal." "William Scott escaped with slight bruises."

Mr. John B. Burnham, born in the year 1845, and now living on and owning the site of the accident, remembers distinctly witnessing the accident of July 4, 1854. He is able to picture the coming together of the locomotives, and his excitement at seeing the accident, which occurred at a point which is now on the line between Mr. John B. Burnham's and the Baltimore city properties between Ruxton and Lake Station, about 213 feet from "Fishpaw Lane." He was in the ninth year of his age, and remembers distinctly of running from his Uncle Fishpaw's wheat field toward the house and falling from a plank bridge into the stream which is now the headwaters of Lake Roland. Mr. Burnham also states that at the time of the Rider Switch accident Dr. Bode lived at Towsontown. Mr. Burnham recalls distinctly that Mr. John H. Scott was severely injured and carried to the home of Mr. George W. McConkey, where he was treated by Drs. Bode and Bosley. He further states that Dr. Bode was 64 to 65 years old: a typical German in appearance and speech; was stout, about five feet six or seven inches tall, weight about 160 to 170 pounds. He was known locally as the "Water Cure Doctor." He had a general practice, and seemed to stand well in the estimation of other physicians in the neighborhood, holding frequent consultations with them.

The following quotation I have taken from a personal letter from Mrs. Rebecca A. Rider, daughter of Mr. George W. McConkey, to the writer of this paper. She writes under date of June 25, 1910:

"When the terrible accident occurred my father had the wounded conductor brought to our house. As he preferred Dr. Bode, he immediately summoned him. Very soon after two other physicians arrived: one Dr. Baxley, employed by the railroad company, and the other Mr. Scott's brother. All three were in attendance some days, I cannot remember how long. I know that the cold-water treatment was used, and I think by Dr. Bode's suggestion. Mr. Scott's limb was fractured in three places, was suspended from the ceiling, and an arrangement made to have the water drip upon it constantly, while muslin cloths were spread over it and removed as soon as they were warm. My sister and I assisted in nursing, and I know that other remedies were used with much care and attention while he remained at our house one month. He was then removed by the company to the home of his sister in Baltimore, where he was attended by Dr. Baxley."

Quoting from the Baltimore County Advocate of August 12, 1854: "Professor Baxley reports that Mr. Scott has improved

since his removal to the city ; his right leg is mending rapidly ; his left ankle, which was crushed, is doing as well as possible." Under date of September 9, 1854, Mr. Scott was reported in the same paper as "still doing well."

Mr. E. Fell Brown, now a compositor in the office of the Baltimore County Union, distinctly recalls Mr. John H. Scott in after years, and also the fact that he walked with a limp.

Dr. Bode lived in Towsontown in about 1852, in a house then owned by Mr. Vogle and now occupied by Mr. Lindzey.

In an issue of the Baltimore County Advocate of Saturday, August 20, 1859, the following paragraph appears : "Dr. William Bode is building a large and substantial stone building on a lot below Susquehanna avenue. It is intended as a hydropathic institution or 'water cure,' as well as a dwelling and boarding-house." This house is now owned and occupied by Mr. William M. Isaacs. Dr. Bode remained there three or four years, when he removed to Baltimore city in 1863, living on South Sharp and Lee streets. Here he had the companionship of Drs. Tall, Kiedel and Webster. Dr. Bode died February 17, 1865, of pulmonary tuberculosis.

Mrs. E. Tyson Ware of Towson remembers distinctly that Dr. Bode was about five feet seven and a half inches tall, weighing about 160 pounds ; a typical German in appearance, and spoke with a decided German accent. She also remembers that one of the farm hands of her father was severely injured while felling trees, and that Dr. Bode's treatment was absolute cleanliness, placing the patient's leg in a comfortable position, covering it with muslin cloths and allowing cold water to drop from a height on the muslin, keeping the wound covered and wet.

Later, in his cold-water establishment (the word sanitarium does not seem to have been used at that time) the wounds were sprayed.

Mrs. Bersch remembers distinctly of her mother telling her that when she, Mrs. Bersch, was about nine months old she was suffering from an intestinal trouble. Her father coming into the house and finding his daughter in a state of collapse, placed the child upon a table, and he standing upon a chair with a large pitcher filled with water in his hand, he allowed the water to drop, drop by drop, upon his daughter's head, and continued this treatment for two hours. He had strong, hot coffee made, and gave her a few drops from time to time. The patient recovered.

Dr. Bode's treatment for measles was to darken the room, making the little patient comfortable, and giving very little medicine. He placed the greatest confidence in his treatment of disease upon absolute cleanliness.

His treatment for tuberculosis was to place a pea underneath the skin over the lung, forming an issue, changing this issue pea every second day. His treatment for sore throat was an application of cold compresses placed around the neck.

Mrs. Bersch is my authority for the following : She states that her father treated some of his patients by preparing pine needles and placing the patient in the vapor of same. His method of doing

this was to have a stove with a large iron pot on top of it filled with water and pine needles. Here he boiled the pine needles. The stove was inclosed in a small room, the ceiling of which was perforated with small openings allowing the vapor to pass through to a similar-sized room above, where the patient was seated to inhale the vapor of the pine needles. He sent his patients out on horseback, advising them to ride among the pines, and when possible he had them live in the pine woods. She also states that he had them sleep in rooms with the windows opened wide.

For his patients suffering from nervous diseases he used shower baths, plunge baths and the drinking of large quantities of cold water. He reduced fever with cold compresses.

Mrs. Bersch recalls a case of milk leg her father treated with a pea underneath the flesh forming an issue and the wearing of a bandage over it.

His practice extended from Towsontown to Long Green, to Cockeysville, to Black Rock, to Mt. Washington. He visited his patients in Baltimore city twice a week, driving from Towson, called at that time "Towsontown." At times he would use a buggy with four wheels, at other times a gig with two wheels, and at other times he rode horseback. He carried his medicines in saddle bags.

He numbered among his patients some of the best people of the country—Burlington Carlisle, the Gill family at Black Rock, the Ridgely family, the Chew family, Robert Gilmor, the Cockey family, the McConkey family and the Rider family.

I quote from a letter to the writer from Mr. Charles T. Cockey, Sr., dated August 3, 1901: "He (Dr. W. Bode) was for some time, about 1844 and thereabouts, my mother's family physician. About this date he established himself at the Green Spring Hotel, on the Green Spring road of the Northern Central Railroad. He fitted the old hotel and called it the Hydropathic Institution, by piping the water all through the building from a spring high up on the hill just west of the Chattolanee Hotel, now standing. The pipes ran through the large spring and can still be seen." "The building was three or four stories high, and it was a big building to ever stay a beautiful and attractive resort at all times for political and religious meetings, picnics and military resorts, etc. Dr. Bode started for practice on foot, labored hard and succeeded slowly, making cures that astonished the people." Mr. Cockey in the same letter refers to a patient by the name of Burlington Carlisle, who fell from the top of a building, "crushing his heel and ankle terrible." "Two prominent surgeons of the day were ready to amputate this patient's foot, and for some reason the operation was postponed. Dr. Bode took charge of the patient, saving the man's foot by his treatment with cold water. The patient recovered and was able to walk without a limp." Later this patient met with a terrible accident, a circular saw cutting his face through his upper lip to the crown of his head. He was attended by Dr. H. Louis Naylor, recovering and living a year or more attending to

business. The accident to Burlington Carlisle was of such an unusual nature, and also another demonstration of the success of a country doctor's surgery in pre-antiseptic days, that I asked Dr. Naylor to give me a history of it that I might incorporate it in this sketch. In answer he wrote: "In February, 1870 (to the best of my recollection), I was called to see Mr. William Burlington Carlisle, who had been severely injured by the breaking of a circular saw while in the act of sawing cordwood. The saw was 18 inches in diameter, operated by a four horse-power doubly-geared machine. The broken fragment, about one-half of the saw, struck him on the head and face, the wound extending from the coronal suture through the frontal bone, superior maxillary bone, angle of nose and inferior maxillary bone, destroying the right eye and two teeth in upper and lower jaws, also cutting through his tongue. A portion of the brain was exuding from the cut. I found him sitting beside the fire perfectly conscious. He was put to bed, the wound cleaned and closed, and left to Nature—no one thinking that he would survive more than 48 hours. Nothing more was done except to make him as comfortable as possible. Notwithstanding the extensiveness and ragged condition of the wound, he improved, and at the expiration of six weeks the wound was entirely closed with the exception of a small suppurating abscess, caused by a piece of necrosed bone; when removed the wound closed in a few days. During the six weeks of convalescence he never lost consciousness, and conversed with the family. But a change took place, the line of demarcation was clearly shown, but when it took place could not be defined. The six weeks of his sickness and convalescence were completely blotted out, and a new chapter entered into which continued uninterrupted to the end of his life, some two years after the accident. To show the force of the blow, the broken portion of the saw was found some weeks later 300 yards or more from the place of the accident; it had taken a direct line over the mansion, which was two and a half stories high. Mr. Carlisle was later examined and insured by a medical examiner for the New York Life Insurance Co."

Mrs. Mary Ann Smith of Mt. Washington, now 80 years old, recalls a man by the name of John Whacker living at Rockland about the year 1850 and suffering from "phthisic," and was treated by Dr. Bode for that disease in the following manner: He was prepared for bed wrapped in a sheet wrung out of cold water, then covered with blankets and kept in this wet pack until morning, when he was taken out of the pack. This treatment continued until the patient recovered. The same patient later had a swelling of both his knees; an issue pea was used and removed each night.

In an interview November 23, 1910, with Mr. David Grafton Carlisle, a half-brother to Burlington Carlisle, I learned that when he was a boy of about nine years of age Dr. Bode practiced medicine in the Green Spring Valley at his water-cure establishment at a place now called Chattolanee. Mr. Carlisle recalls Dr. Bode, and has a very pleasant recollection of the man and his abilities as a

physician. He recalls distinctly the treatment of Mr. Charles T. Cockey, Sr., another half-brother, by Dr. Bode in 1847, in which Mr. Cockey, then a boy at Emmitsburg School, fell and sustained an injury of the head and later developed convulsions. Dr. Bode treated this boy with cold water and the convulsions disappeared, never to return. At this writing Mr. Cockey is living, but an invalid. Mr. Carlisle recalls that Dr. Bode's treatment for typhoid fever was open windows, allowing a circulation of fresh air through the room; clean sheets on the bed every day. He claimed that lemon juice in typhoid fever would kill the poison and prevent perforation of the bowels. This is a remarkable statement from a physician practicing medicine back in the forties, before the germ theory was taught, and also anticipating the acid treatment for typhoid fever. Mr. Carlisle states that the first question Dr. Bode would ask when a case of typhoid fever was discovered, "What have you got in the cellar?" and very frequently he would find decayed potatoes and other vegetables; much the same conditions as physicians find today. Dr. Bode insisted on a clean cellar and a clean barnyard. He was always on the lookout for local causes of disease. Dr. Bode used an infusion made from fresh or dried cucumbers for asthma.

Dr. Bode was at first criticised by the medical profession of his neighborhood. He was known as "The Water Cure Doctor" and the "Little Dutch Doctor;" later, when his ability was demonstrated, his neighboring physicians held him in higher esteem and consulted with him.

Mr. Carlisle stated that Dr. Bode remained about three years at the Green Spring Valley Hotel, in which enterprise he lost all his money, and then removed to Towson, Md.

Mr. Carlisle confirms the report of Dr. H. L. Naylor regarding his half-brother, Burlington Carlisle, and states that nine months after the accident of having his face and head cut with the circular saw he succeeded in securing a policy in a New York life insurance company, and that he lived 18 months after the date of the accident.

Mr. Carlisle recalls distinctly the Rider Switch accident of 1854, and also stated that he met Mr. John H. Scott, the conductor injured in that accident, at Dayton, O., about the year 1875.

Dr. W. W. Keen of Philadelphia, in his article entitled "Modern Antiseptic Surgery, and the Role of Experiment in Its Discovery and Development," in the *Journal of the American Medical Association* of April 2, 1910, Vol. LIV, No. 14, writes: "My surgical life covers all three of these periods, since I graduated in medicine in 1862, some years before Lister began his work. I have, therefore, fought my way from the horrors of the preantiseptic days up to the delights of the present antiseptic days. 1. The preantiseptic period. In my early surgical experience every accidental wound and every surgical operation (that is, an intentional wound) was followed by inflammation and suppuration, i. e., the discharge of 'pus' or 'matter.' This was not only constantly expected as an unavoidable process of Nature and believed to be needful for heal-

ing, but was constantly realized. Hence the pus was called 'laudable' pus! How well I remember, 40 years ago, at the beginning of each winter's session, when I was the assistant of the late Prof. Samuel D. Gross, his turning to the orderly and saying to him: 'Tomorrow, Hugh, I shall lecture on suppuration. Go over to the hospital in the morning and get a cupful of pus for my lecture.' Pus, mark you, was always 'on tap,' so to speak, though the little hospital contained only a dozen beds!"

Dr. James J. Walsh of New York, in his article entitled "University Medical Schools," in the *Journal of the American Medical Association* of August 20, 1910, Vol. LV., No. 8, writes: "Perhaps the most surprising thing is to find that William of Salicet (Italian physician, died 1280), in discussing his cases, suggested that sometimes he succeeded in obtaining union by first intention by keeping his wounds clean. Alas, for the surgery of succeeding centuries! Guy de Chauliac, a greater mechanical genius than William, insisted that union by first intention was an illusion, and that healing could come only from pus formation. Laudable pus became the shibboleth of surgery for centuries, imposed on it by the genius of a great man. Most men think that they think; they really follow leaders, and so followed blindly after Guy until Lister came and showed us our mistake. In the *Lancet* (I quote from 'Epoch-Making Contributions,' C. N. B. Camac, folios 7 and 8) of March 16, 1867, Lister published the first of a series of articles entitled 'On a New Method of Treating Compound Fracture, Abscess, etc., with Observation on the Condition of Suppuration'—which strictly marks the first of Lister's publications on Antiseptics—the following statements appear: 'My attention having for several years been directed to the subject of suppuration, more especially in its relation to decomposition, I saw that such a powerful antiseptic was peculiarly adapted for experiments with a view to elucidating that subject, and while I was engaged in the investigation the applicability of carbolic acid for the treatment of compound fracture naturally occurred to me. My first attempt of this kind was made in Glasgow Royal Infirmary in March, 1865, in a case of compound fracture of the leg. It proved unsuccessful, in consequence, as I now believe, of improper management, but subsequent trials have more than realized my most sanguine anticipations.'"

Dr. Bode was a Lutheran, but there being no Lutheran congregation in Towson, he attended the Epsom Chapel, where the Methodist congregation held services. Of his literary attainments I have not been able to learn. His favorite authors were naturally Schiller and Goethe. I have not been able to learn that Dr. Bode was a member of any medical society. When we recall that in his day physicians, as a rule, did not belong to medical societies; that he was isolated, as it were, far into the country, this is not to be wondered at. I am also not able to find any of his medical writings. His daughter, Mrs. Bersch, informs me that he did not keep records of his cases; some years back she had a few of his favorite

prescriptions, but at the present time she is not able to find them; she fears they have been lost.

Dr. Bode was domestic, loving his home and spending all of his spare time with his family. He had a good singing voice, and, like many Germans, enjoyed singing.

In presenting this paper to you this evening I have endeavored, and I think I have succeeded, in proving that Dr. Bode, isolated as he was from medical centers, was far in advance of his age, and that he practiced "clean surgery" when the professors of surgery and physicians in general in larger cities were insisting that "laudable pus" was necessary after all operations.

I am sure I do not ask too much consideration for these country doctors when I ask that their memories be honored, their names revered, and that justice be accorded them.

December, 1910.

Society Report.

THE regular spring meeting of the Somerset County Medical Society was held at Crisfield, Md., Tuesday, April 4, at 3 o'clock P. M. The meeting was probably the most successful which has ever been held by the society.

Dr. R. R. Norris, the resident surgeon of the General and Marine Hospital of Crisfield, exhibited a case of fracture of both plates of the frontal bone, a case of compound fracture of the femur and read the history of a case of intussusception occurring in a baby of 14 months, with operation and recovery. Dr. Collins read a paper on scarlet fever, after which the business of the meeting was transacted.

At 5 o'clock the members adjourned to the dining-room of the hospital, where a splendid dinner was served. Dr. R. Lee Hall, the counsellor for the three lower counties of the Eastern Shore, was present and expressed himself as being highly gratified with the showing made by the society.

All the members present enjoyed themselves very much, and left feeling that in the words of the old negro at class meeting, "That it was indeed good to be there."

RALPH L. HOYT,
Secretary.



WILLIAM H. WELCH, M.D.,
President.

HOWARD BRATTON, M.D. LOUIS A. GRIFFITH, M.D. JAMES BOSLEY, M.D.
DOUGLAS H. THOMAS, JR. HON. ISAAC LOBE STRAUS.

MARSHALL LANGTON PRICE, M.D.,
Secretary.

Under the Direction of the Secretary of the State Board of Health

BACTERIAL VACCINES IN THE TREATMENT OF STAPHYLOCOCCIC INFECTIONS.

By *H. W. Stoner, M.D.*

THE history of modern medicine contains many instances in which the introduction of new methods, either for diagnosis or for treatment, have been received with great enthusiasm by the medical fraternity, followed sooner or later by a reaction in the other direction, during which time many of them sink into oblivion and are never more heard from, while the more worthy finally find their way back and take a useful field in the armament of medical science. This is due to the fact that, taken as a whole, the medical profession is always on the alert for anything new that promises to be of benefit to suffering humanity, and, owing to their intelligence and training, are not slow in discovering the value or uselessness of new methods.

Among the methods of treating disease that has received more than usual attention in recent years is the method known as "vaccine or opsonic therapy." While Wright himself was very cautious in making undue claims as to the efficiency of this method of treatment, it was confidently hoped by many of his followers that the key to the cure of all infectious diseases lay in opsonic therapy. The wide use of Wright's method of treatment has proven that vaccine therapy, while falling short of the earlier expectations, is of unquestionable value in certain conditions, and when administered under proper circumstances the results sometimes obtained are rather remarkable.

With the exception of the wide use of the prophylactic typhoid vaccines, probably vaccine therapy has found its greatest field of usefulness in the treatment of staphylococcus infections, and the following is a compilation from the literature of the results obtained by staphylococcic vaccine, together with the report of a

small number of cases that have come under the observation of the writer.

In a recent review of the literature¹ the writer collected a large number of staphylococcic conditions treated by bacterial vaccines, and the results may be summarized in the following:

| | Cases. | Cured. | Improved. | Not benefited. |
|--------------------------------|--------|--------|-----------|-------------------|
| Cancerum oris..... | 1 | 1 | .. | .. |
| Prostatitis | 6 | 6 | .. | .. |
| Adenitis | 3 | 2 | .. | 1 |
| Salpingitis | 2 | 2 | .. | .. |
| Acne | 139 | 74 | 48 | 7 |
| Carbuncles | 24 | 23 | 1 | .. |
| Furunculosis | 140 | 125 | 12 | 3 |
| Sycosis | 28 | 13 | 10 | 4 |
| Atrophic rhinitis..... | 10 | .. | 10 | .. |
| Sinusitis | 3 | .. | 3 | .. |
| Otitis media..... | 34 | 19 | 11 | 4 |
| Local infections..... | 114 | 39 | 55 | 20 |
| Post-operative infections..... | 39 | 28 | 7 | 4 |
| | 543 | 332 | 157 | 45 |

It will be apparent from the above that vaccine therapy in staphylococcic conditions is not specific, but the results certainly do compare very favorably in a number of conditions with other forms of treatment. One of the advantages of the method is that it does not interfere with ordinary routine treatment, and it is possible that the results in the above series of cases might have been more favorable had routine treatment been used in conjunction with vaccine, but the enthusiasm of many of the earlier investigators led them to believe that in vaccines they had a specific, and all other forms of treatment were neglected.

I am indebted to Dr. W. R. Stokes for the records of three of the cases here reported, and to Dr. Eugene Hayward for the record of one case. The remainder were private patients.

CASE I.—Recurrent boils; duration, about one month. Condition started with boil on back of the neck, followed by several others in succession in the same region and a number on the buttocks. *Staphylococcus albus* was isolated from one of the boils and an autogenous vaccine administered. The first dose consisted of 100,000,000 dead organisms, followed by five inoculations of 250,000,000 each at intervals of five days. After the second inoculation the boils disappeared, and there was no recurrence when patient was seen last, one month after the first inoculation.

CASE II.—Multiple boils on arms, at sites of hypodermic injections of morphine; duration, about one year. The patient was addicted to the use of morphine, and both arms contained many boils, from one of which *staphylococcus aureus* was isolated. Autogenous vaccine was administered in doses of 100,000,000 at the first injection, and 200,000,000 each for several succeeding injec-

tions, at intervals of five days. Following the first injection the boils seemed to become more numerous, but started to disappear after the third inoculation, and patient was free from boils when treatment was discontinued, at the end of a month. Patient has not been heard from since.

CASE III.—Purulent adenitis; duration not obtained. *Staphylococcus citreus* isolated from pus and an autogenous vaccine administered in doses of 100,000,000, 100,000,000 and 200,000,000 at intervals of five days. Condition cured, and no relapse within a year after treatment.

CASE IV.—Cellulitis of arm; duration not obtained. *Staphylococcus aureus* isolated and one dose of 25,000,000 dead organisms administered. Patient did not respond to treatment, and died on the fourth day after the inoculation from general staphylococcus septicemia.

CASE V.—Furunculosis; duration about six weeks. Boils on back of neck and on face. *Staphylococcus aureus* isolated, and an autogenous vaccine administered in doses of 100,000,000, 200,000,000 and 300,000,000 at intervals of five days. One boil appeared after third inoculation. No recurrence within year.

CASE VI.—Furunculosis; duration six months. Single boil appeared on back of neck, followed by several successive crops. An autogenous vaccine of *staphylococcus aureus*, administered in doses similar to the above, was followed by recovery, and no recurrence within the last 18 months.

CASE VII.—Furunculosis; duration about three weeks. Several large very painful boils on buttocks. Following one administration of an autogenous *staphylococcus aureus* vaccine containing 100,000,000 dead organisms, the pain disappeared, the boils never pointed, and had completely disappeared by the third day after the first injection of the vaccine. Two more injections of 100,000,000 and 200,000,000 were made at intervals of five days. No recurrence within last 14 months.

CASE VIII.—Carbuncle; duration about one week. A carbuncle the size of a walnut on left forearm just below the elbow. As the tumor did not fluctuate, it was not incised, and only a small quantity of bloody fluid could be squeezed out on puncturing the swelling. *Staphylococcus aureus* in pure culture was obtained and an autogenous vaccine of 100,000,000 was injected. Following the first inoculation the pain disappeared and the swelling began to diminish in size, and on the day of the second inoculation, five days after the first, only a red discoloration of the skin remained. Pus was never evacuated from the tumor. A third dose, containing 200,000,000 organisms, was made, and there has been no recurrence within a year.

CASE IX.—Recurrent carbuncles; duration six months. Patient had had recurrent carbuncles on left leg which had received surgical attention at a local (West Virginia) hospital. During the first three months of the trouble the patient was not greatly inconvenienced, but as the condition continued he lost weight, could not

sleep and appetite was poor. During the last crop of carbuncles the patient was confined to bed in hospital for 10 days. Patient came to Baltimore, and a culture from the site of the incision of the last carbuncle contained *staphylococcus aureus*. An autogenous vaccine was made and 125,000,000 dead organisms inoculated, followed at intervals of five days by inoculations of 250,000,000 each. After the third injection two small pimples appeared in the neighborhood of his former trouble, but disappeared within 48 hours. Up to the present time patient has taken nine inoculations. In a communication eight weeks after beginning treatment he states that no other carbuncles have developed, appetite is good, sleeps well and that "he is rebuilt, and is as good as new."

CASE X—Service of Dr. Hayward.—Recurrent boils; duration eight months. First one appeared on abdomen in appendicular region. Patient had nine in all. During—and, indeed, before—this period the general health of the patient had been poor. There was progressive loss of weight, progressive anemia and progressive weakness. A culture made from the boil contained the *staphylococcus albus*. The injection, on October 4, 1910, of an autogenous vaccine was followed by a violent reaction; temperature of 101°; pulse, 120; respiration, 30, with a marked nausea and headache. The condition returned to normal within 48 hours. On October 13 a second injection of 180,000,000 organisms was given, and the reaction was even more severe than the first. A third dose of 50,000,000 was administered on October 19 with very slight reaction, and a final dose of 100,000,000 given on October 27 caused a fairly marked reaction.

From October 4 to October 27, during which time the patient was receiving the vaccine, three new boils developed in a region in which there were healing boils, and where there had been a short time previously itching. It is possible that these may have been due to reinfection from scratching. Still another boil appeared about December 1, since which time no more have put in appearance.

From the first of November the patient began to improve. Appetite rapidly became good, the cheeks filled out and assumed a good color, vigor returned, and the patient has taken up duties which had been previously given up. The patient claims that she has never felt better in her life.

This series of cases, while small, presents some rather interesting features. Among these may be mentioned the disappearance of the pain usually associated with boils and carbuncles, which generally subsides in the first 24 hours following the inoculations; the healing of the boils in Case VII and the carbuncle in Case VIII without pus formation; the rapid disappearance of the boils in Cases I and IV, and the apparent tendency of the vaccines to promote more rapid formation of boils in Cases II, V and X are all problems that require further investigation.

The severe reactions noted in Case X are unusual, as in most

cases there is little more than slight tenderness about the site of inoculation, which subsides within 24 hours.

The general response of the body following the inoculations in the way of improved appetite, vigor and strength emphasized in Cases IX and X is, in general, applicable to all cases receiving vaccines. They seem to act as a general tonic in many ways. This was especially noted by Bruce², who found that the most common bodily disorder in patients suffering with chronic mania is lack of nutrition. He treated 11 such cases with a polyvalent vaccine, and was surprised at the improvement in nutrition. One patient gained 28 pounds in six months; another, 26 pounds in five months, and there was marked improvement in the nutrition of six of the other patients receiving the vaccines.

In conclusion, we will summarize the foregoing by stating that from the results obtained by others and judging from our own small experience, we believe that vaccine therapy is indicated in staphylococcic infections, particularly in those forms enumerated above. The vaccines should also be used in conjunction with old established remedies, and not relied on wholly for their effect. To quote from a well-known authority³: "This form of treatment is not designed to supplant any of the well-tried and effective means of overcoming infections. Its adoption will not stay the surgeon's hand nor relieve him of his responsibility. It is merely an adjunct, and may be employed in any suitable case without incompatibility to any other measures. If it be employed as a panacea, it will bring disappointment, but properly used it will, in a series of cases, have a favorable effect upon morbidity and mortality as well. It is one of the aids which a man energetic in the interest of his patients will not neglect."

REFERENCES.

¹*American Journal Medical Sciences*, February, 1911.

²*British Medical Journal*, 1910, I, p. 430.

³*Surgery, Gynecology and Obstetrics*, 1910, Vol. XI, p. 138.

NEW AND NONOFFICIAL REMEDIES, 1911. Containing Descriptions of the Articles Which Have Been Accepted by the Council on Pharmacy and Chemistry of the American Medical Association prior to January 1, 1911. Chicago: Press of the American Medical Association. 1911. Paper, 25 cents; cloth, 50 cents.

Every physician is or should be acquainted by this time with the annual publication, "New and Nonofficial Remedies." This is the 1911 edition, and, as in former, contains descriptions of all articles approved by the Council on Pharmacy and Chemistry of the American Medical Association. Here the physician can obtain reliable information on all unofficial nonproprietary remedies, including the dosage, uses and tests of identity, purity and strength, together with other desirable information.

Book Reviews.

THE TREATMENT OF SYPHILIS WITH SALVARSAN. By Sanitaerat Dr. Wilhelm Wechselmann of Berlin, Medical Director of the Skin and Venereal Disease Section, Rudolph Virchow Hospital, Berlin. With an introduction by Prof. Dr. Paul Ehrlich of Frankfurt-on-Main, Director of the Royal Institute of Experimental Therapeutics, Frankfurt. Only authorized translation, by Abr. L. Wolbarst, M.D., of New York, Consulting Genitourinary Surgeon, Central Islip State Hospital; Visiting Genitourinary Surgeon, People's Hospital; Professor of Genitourinary Diseases, New York School of Clinical Medicine, etc. With 15 textual figures and 16 colored illustrations. New York and London: Rebman Company. Cloth, \$5 net. 1911.

Owing to the furor which salvarsan is creating in the medical sphere, a translation of Wechselmann's estimate of its place in luetic therapeutics is extremely welcome. Wechselmann, through the solicitation of Dr. Ehrlich, did an immense amount of the early clinical work with 606, and is therefore in a position to speak with a degree of authority not possessed by other scientists. Wechselmann has deduced his conclusions from a series of 1400 cases, from which he is enabled to speak positively of its effect on the primary lesion, on the secondaries, in visceral and late lues, on the effect in ocular syphilis and in tabes and paralysis. Concerning the latter two, the writer states: "As regards the parasyphilitic diseases, it is self-evident that the degenerated portions of the central nervous system cannot be replaced. However according to Erb, other syphilitic lesions are found in tabes besides the sclerotic processes, especially in the blood vessels, gummata and meningitic proliferation, this being also the case in progressive paralysis, for in many cases of tabes, as Adrain has shown, we also find manifest symptoms of syphilis upon the skin or in the internal organs. * * * In view of the fact that salvarsan brings about a speedy cure of foci in skin affections which failed to respond after years of treatment with mercury, the use of the new remedy in tabes and paralysis appears to be perfectly justifiable. If, for example, in tabes even very small foci can be made to recede, the advantage to the patient must be very great, as the most important nerve tracts lie in close proximity in a very limited space. * * * Thus I have observed the rapid disappearance of serious intercostal neuralgia in two cases that required the constant employment of narcotics; the lancinating pains almost without exception disappear, or there is at least an improvement: gastric crises cease altogether, or they become less frequent and less severe. * * * Lost sexual power has been restored. In one case it was so greatly benefited that daily intercourse was imprudently indulged in, but even now, after three months under judicious control, the improvement is still present. Almost without any exception, ataxia is also

modified materially. * * * I have seen trophic ulcers on the sole of the foot disappear in two cases." Every aspect of the use and results of arsenobenzol injection as gleaned from his experience in over 1400 cases is recorded in the text. The reviewer cannot find words suitable to portray the many excellent qualities of this most complete monograph on the treatment of syphilis with salvarsan.

THE ANATOMIC HISTOLOGICAL PROCESSES OF BRIGHT'S DISEASE AND THEIR RELATION TO THE FUNCTIONAL CHANGES. Lectures delivered in the Russell Sage Institute of Pathology, City Hospital, New York, during the winter of 1909. By Horst Oertel, Director of the Russell Sage Institute of Pathology, New York. Illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$5 net. 1910.

This monograph of some 200 pages first appeared as a series of lectures delivered to the interne staff of the New York City Hospital; since then the lectures have been corrected here and there and made into book form. There is no doubt that it is destined to exert a potential influence in our conception of the best method of presenting the anatomic features of Bright's disease. The book is replete with novel features, and will of necessity be a model for future volumes on the same subject. We cannot pass the illustrations by without a word of special commendation, for they are works of art, and add greatly to the attractiveness of the volume. We heartily agree with the statement of the author that diseases of the kidney differ in a peculiar way from the diseases of other organs.

"First, there exists an exceptional, intimate correlation of the diseases of the kidney with concomitant or associated conditions which we cannot dismiss from our consideration, as we do in the study of other organs. To illustrate this concretely I may say that one can investigate the inflammations of the lung, of the heart, of the liver or of the spleen more or less independently of other organs. We can abstract them from the rest of the body, so to speak, and observe them independently. This is hardly possible, however, in diseases of the kidney, more especially in Bright's disease. I need only to remind you that hypertrophy of the heart, of edema, of circulatory disturbances, of changes in the blood vessels, of albuminuria, etc., are so intimately connected with the changes in the kidneys that it becomes evident at once that herein lies a considerably complicating factor.

"Secondly, there exists great difficulty—and at the same time a much greater necessity here than in almost any other organ—in establishing a proper relationship between structural and functional changes. But not only are we almost entirely ignorant, or at least uncertain, of many of the physiological conditions of the secretion and of the part played therein by the various components

of the kidney, but in the pathological variations we are constantly confronted by obstacles which constantly are hard or even impossible to overcome.

"Finally, a third factor which conflicts, and a rather personal one, is the multitude of views held with regard to the normal and pathological functions and the anatomical and histological changes in the kidney which, on account of their number and of the peculiar subjective tendency here displayed, make it almost impossible to present them satisfactorily and entirely."

The reviewer certainly subscribes to the above quotations.

The book commences with a historical survey, and takes up, *seriatim*, the structure of the normal kidney and the different views on its functions in their relation to the pathological variations, the degenerative and exudative features of nephritis, the results and terminations of degenerative and exudative nephritis, productive changes in the kidney, productive nephritis, changes in other viscera, edema, notes and references, classification of nephritis, non-inflammatory lesions of the kidney, occasionally, but wrongly, grouped as nephritis.

The book is one of unusual merit, and its careful perusal will open an entirely new vista of the histological processes of Bright's disease to the reader.

THE EXPERIMENTAL CHEMOTHERAPY OF SPIRILLOSES (Syphilis, Relapsing Fever, Spirilloses of Fowls, Framboesia). By Paul Ehrlich and S. Hata. With contributions by H. J. Nichols, New York; J. Iversen, St. Petersburg; Bitter, Cairo, and Dreyer, Cairo. Translated by A. Newbold, and revised by Robert W. Felkin, M.D., F.R.S.E., etc., late Lecturer on Tropical Diseases, Edinburgh Medical College. With 34 tables in the text and 5 plates. New York and London: Rebman Company, 1123 Broadway. Cloth, \$4 net. 1911.

Dr. Ehrlich has labored under the impression, to, these many years that a medicinal subject to be of any avail must be incorporated into the bodily system. This theory was not accepted by the profession, and at the present time has but few advocates, which are, however, on the increase. This book is a record of the experimental work by which he arrived at his conclusions. It goes without saying that any book issued under the signature of Dr. Ehrlich must of necessity demand the most careful study and consideration of all reading physicians, and the English-speaking world is indeed under a great debt of obligation to Drs. Newbold and Felkin for their part in making the volume accessible to those who are unable to read German. In this volume is succinctly told the reasoning by which salvarsan was evolved, and it goes without saying that to use this preparation with the greatest intelligence one must understand thoroughly the reasoning which was employed in its production. Moreover, a work of this character is monumental in character, as it gives an insight

into the amount of experimental labor necessary to be performed before the scientist is justified in placing his product before the medical world. Ehrlich takes this method of informing us that, according to his notion, great strides have been made in the treatment of syphilis; that the method is without danger, and that those cases in which undesirable symptoms or death have occurred was due to an improper selection of subjects. We are extremely pleased to have authoritative statements from the originator of the method, and agree with him that the treatment of syphilis has been simplified by the introduction of 606, but cannot agree with him that the method is not entirely devoid of danger, for undoubtedly many properly selected cases have been harmed rather than benefited by its injection.

Herein is explained at length the proper technic of salvarsan injection, the route to be selected, the dosage, the number of injections and the interval between injections.

We repeat that the American medical profession is indeed fortunate in being able to get at first hand this latest product of Ehrlich and his collaborators, and that every physician who is making use of 606 should acquire this volume if he is to apply it scientifically.

ACCIDENTAL INJURIES TO WORKMEN WITH REFERENCE TO WORKMEN'S COMPENSATION ACT, 1906. By H. Norman Barnett, F.R.C.S., etc. Rebman Company, New York.

The increasing demand that some sort of compensation be given a workman injured while performing the duties of his occupation leads to the necessity for accurate judgment in determining the degree of disability sustained, and its influence on earning capacity. Books like the one under review come in answer to this demand. This book contains a great deal of legal opinion that must be of value only to British subjects. The medical portion treats the matters under consideration in an incomplete and even fragmentary manner. The information given is insufficient to guide a layman, and is part of the general knowledge of every practitioner. The advice given in the chapter on traumatic neurosis is sound. Sacro-iliac dislocations and sprains are not mentioned.

STATE REGISTRATION FOR NURSES. By Louie Croft Boyd, R.N., Graduate Colorado Training School for Nurses, connected with City and County Hospital, Denver, Col.; Post-Graduate Presbyterian Hospital, Chicago, 1909; Certificate of Hospital Economics, Teachers' College, Brooklyn, N. Y., 1908-1909. 12 mo. of 42 pages. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical & Standard Book Co. 1911. Paper, 50 cents net.

This pamphlet is a comparison of the laws of the several States governing the registration of nurses. It embodies the very latest laws enacted, therefore is up to date. This compilation

should be of great benefit to nurses seeking information concerning the requirements for registration in those States of the Union which require examination before being allowed to practice as a registered nurse. It will also be found of benefit by nurses of States without examining boards, for here they can get at a glance the several laws and use them as a model in the casting of theirs. The pamphlet contains a summary of the laws, registration requirements, fees and their disposition, exemptions and restrictions, violations, revocation, reciprocity, recording certificates, compulsory laws, etc. The value of the publication is materially enhanced by a rather complete bibliography of the literature on the subject.

BISMUTH PASTE IN CHRONIC SUPPURATIONS, ITS DIAGNOSTIC IMPORTANCE AND THERAPEUTIC VALUE. By Emil Beck, M.D., etc. C. V. Mosby Company, St. Louis. 1910.

The introduction of bismuth paste into surgical practice and the general effect of its use has become familiar knowledge through many journal articles and reports. This monograph, by the originator of the method, is a well studied summary of its results in his own hands, and a critical review of the work of other observers. The entire book is a convincing argument for the use of bismuth paste. The limitations of the method are shown, and perhaps the best chapter for general instruction is the one on limitations and causes of failure. The book is well written and fully illustrated.

ATLAS OF MICROSCOPICAL DIAGNOSIS IN GYNECOLOGY. By Privat-dozent Rudolph Jolly, Chief Physician of the Gynecologic Clinic, University of Berlin. With 54 illustrations. Translated by P. W. Shedd, M.D., New York. London: Rebman, Ltd. Cloth, \$5.50.

The author has so far missed his aim in satisfying the long-felt want of a treatise on gynecological pathology that the book is of little value. While the plates are well colored, they do not represent accurately these pathological conditions as seen under the microscope. The pictures representing pre-menstrual congestion and menstrual hemorrhage, according to modern-day conceptions, are wrong, as the glands represented in the picture are of the post-menstrual type. The picture showing menstrual hemorrhage represents more a miniature eruption of a volcano than that which is usually seen, and here also may be said the glands are of the post-menstrual type. Again, the author has depicted the so-called Opitz pregnancy glands, in spite of the fact that these glands are well known not to be characteristic of pregnancy. The pathology of the tubes and ovaries finds no place whatever in this Atlas. The picture of endometritis glandularis is far from convincing, and may be easily taken for the glands in the pre-menstrual endometrium. In fact, most of the pictures in the book poorly represent the morbid conditions as seen under the microscope.

STATE BOARD QUESTIONS AND ANSWERS. By R. Max Goepf, M.D., Professor of Clinical Medicine at the Philadelphia Polyclinic; Assisting Visiting Physician to the Philadelphia General Hospital; Associate in Clinical Medicine, Jefferson Medical College. Second edition, thoroughly revised. Octavo volume of 715 pages. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical & Standard Book Co. 1911. Cloth, \$4 net; half morocco, \$5.50 net.

The second edition of State Board Questions and Answers is larger and better than its predecessor, and the compiler has shown admirable discrimination in the selection of the questions given under the several captions. Students and practitioners engaged in preparing for any State board examination will find this volume of immense aid in getting a line on the run of the questions and the proper answers. The present volume includes those questions pertaining to the latest developments in medicine, and is right abreast of the times. The additions include, among others, questions on serum and vaccine therapy, the recent work in the serum diagnosis and treatment of syphilis, diseases due to intestinal parasites and other tropical disorders, and the new heart physiology, the myogenic theory, and graphic methods of studying the phenomena of the circulation.

A MANUAL OF GYNECOLOGY. By Thomas Watts Eden, M. D., C.M., Edinburgh, F.R.C.P. London, F.R.C.S. Edinburgh: Obstetric Physician with Charge of Out-patients, and Lecturer on Midwifery and Gynecology, Charing Cross Hospital; Surgeon to In-patients, Chelsea Hospital for Women; Physician to In-patients, Queen Charlotte's Lying-in Hospital; Examiner in Midwifery and Diseases of Women to the University of Oxford, and to the Royal Army Medical College. With 272 illustrations in the text. Philadelphia: P. Blakiston's Son & Co. Cloth, \$5 net. 1911.

With so many good books on gynecology, there seems to be but little excuse for this one. It contains absolutely nothing new, and most of the text is out of date. Throughout the text, however, the author has shown care in preparing it, and has presented a rather readable book. Several illustrations in the book are ones that have been dropped from the standard textbooks for many years. For instance, how to introduce a probe in the uterus without the use of a speculum and the replacement of a retroverted uterus by the use of a sound. The photo-micrograph illustrations of gynecological pathology are the best illustrations in the work. The chapter on pelvic inflammation is not up to date, and the same may be said of the treatment for this condition. Operative gynecology has been rather sparsely treated. The newer operations, particularly for the cure of cystocele and prolapse of the uterus, have not been added to the text.

The work is printed in a clear, bold type and on good paper.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, MAY, 1911

FEE-SPLITTING.

FEE-SPLITTING has been condemned by the profession from time immemorial, as this practice places the profession in an unsavory light. It is wrong, both ethically and morally, because the patient is not cognizant of the transaction between the surgeon and the doctor who refers him the case. Moreover, an unprincipled physician will be guided in referring his work to the man who divides his fee, regardless of that one's capabilities for the character of work in view. Those in favor of fee-dividing claim that the emoluments of the physician and the surgeon are entirely out of proportion to the value of services rendered by the two; that it requires as much judgment to make a diagnosis of appendicitis as the actual operative procedures, and that there is no earthly reason why the medical attendant who makes a correct surgical diagnosis should get for the same perhaps two dollars and the surgeon to whom the patient is referred one hundred and fifty. These men justify their practice of fee-division on this principle. We admit that surgical fees and medical fees are entirely out of proportion, and that some equitable adjustment of the same should be arrived at, but not in the manner of the stealthy fee-splitter, who is ashamed to let his professional brethren know that he is a party to the practice. Is there any circumstance under which fee-division is justifiable? We think there is. If the family physician frankly tells his patient that the operation which he is about to undergo will cost him two hundred dollars for professional services, a certain proportion of which is to go to the surgeon and the other to himself, his patient will be fully aware of the transaction, and both the surgeon and the physician will be ade-

quately compensated for their trouble. Be this as it may, time will correct the difference, for each year there is being poured into the medical profession a host of capable young surgeons. These men are bidding for work; competition is therefore becoming more and more acute, and along with it a gradual lessening in the surgeon's income. With this decrease the enormous difference between the surgeon's and physician's income will cease, and with it the practice indulged in by a very small proportion of the profession of division of the fee.

HELP MERCY.

LISTEN to the war cry of Mercy Hospital—"Help Mercy"! Pause a minute and turn over in your mind the worthiness of this charity, and perhaps you will be moved to unloosen your purse-strings and add your mite to defraying the building expense of the new addition to Mercy Hospital. For a number of years this hospital has been receiving the needy and dependent citizens of Baltimore within its walls without ever making a direct appeal to the citizens of Baltimore for help. Its usefulness has been so hampered by its cramped quarters that recently it has been compelled to increase its facilities. These improvements have been made at an expense of \$300,000, and the authorities in charge have found it necessary in order to meet this indebtedness to make a direct appeal to the citizens of Baltimore to aid in liquidating the debt. There is no more worthy charity in Baltimore than that represented by the Mercy Hospital. Its door is open alike to Christian and unbeliever; no case is turned away because of creed or color, and the character of the work done within its portals is on a par with the best in this country. The committee in charge of raising this sum is working energetically. Many promises have been made, but still more pledges must be gotten before the amount is entirely subscribed. Dr. A. P. Herring has been appointed director in charge of the campaign, and in his inimitable strenuousness has already quickened the movement. To date most of the subscriptions have been in small amounts, which fact is an earnest of the popularity of the institution. Any amount, no matter how small, will be gratefully received. Contributions sent to this office will be turned over to the proper persons.

Medical Items.

DR. D. W. CATHELL is giving his book on "The Physician Himself" a twelfth and final revision, and will attempt to make it a book without a parallel in usefulness, and also a book without a blemish.

THE plans for the tubercular hospital to be erected at Sanatorium, Md., have been completed by Architect Howard Sill of Baltimore. An administration building with two wings is to be built. The main building will be three stories high, of brick and stone. One of the wings will be used as a service building; the other will contain the wards for the tubercular patients. The whole will cost \$100,000.

DR. IRVING MILLER is occupying his new home, 1211 North Calvert street.

DR. LLEWELLYS F. BARKER was operated on at the Johns Hopkins Hospital for appendicitis and is now convalescing.

THE Emperor of Germany has conferred upon Dr. William H. Welch of Baltimore the Order of the Crown, second class, in appreciation of his services in propagating German medical science in the United States and in spreading the use of the German language in the medical schools of America.

UNDER the will of Benjamin F. Chambers, for many years a prominent farmer of Cecil county, the Union Hospital of that county is the chief beneficiary of the estate, which is estimated to be worth between \$60,000 and \$70,000.

DR. JAMES M. H. ROWLAND has been appointed by Mayor Mahool a member of the School Board of Baltimore city.

THE trustees of the Hospital for the Women of Maryland have purchased the handsome residence at 1413 Park avenue and will fit it up as a home for the nurses of the hospital.

DR. E. STANISLAUS, dean of the medical department of the University of Pennsylvania, delivered a lecture in Baltimore recently on "Tuberculosis," the lecture being under the auspices of the Federated Charities.

THE portrait of Dr. James H. Jarrett will be placed in the hall of the Medical and Chirurgical Faculty of Maryland by the Baltimore County Medical Association, of which he is a member. Dr. Jarrett has been a practicing physician of Baltimore county for 59 years.

THE various newspapers of Baltimore have presented the portrait of Dr. John J. H. Krozer, the oldest living graduate of the University of Maryland in Baltimore. Dr. Krozer is 84 years old and has been practicing medicine 63 years.

MARRIAGES.

LLOYD BANKSON WHITHAM, M.D., of Philadelphia, Pa., to Miss Alice Whitridge Garrett Ridgeley of Baltimore, at Baltimore, April 22, 1911. The couple will reside at Maynadeire, Fauquier county, Va.

DEATHS.

WILLIAM HENRY DeCOURCY, M.D., of "Cheston-on-Wye," Queen Anne's county, Md., died at the Johns Hopkins Hospital, April 6, 1911, aged 87 years.

FREDERICK T. ROBINSON, College of Physicians and Surgeons, '04, of Brooklyn, Md., died at the Johns Hopkins Hospital, April 10, 1911, aged 43 years.

RICHARD W. IVERS, M.D., Baltimore Medical College, '95, died at his home in Middletown, Conn., April 2, aged 40 years.

ROBERT A. WALKER, M.D., College of Physicians and Surgeons, '82, of Rockville, Pa., died at the home of his sister in Wilkinsburg, Pa., March 29, 1911, from cancer of the intestines, aged 54 years.

JACOB DIMMITT NORRIS, M.D., University of Maryland, '78, died at his home in Baltimore, April 24, 1911, of heart trouble, aged 66 years.

WILLIAM GREEN, M.D., Jefferson Medical College, Philadelphia, '58, died at his home in Baltimore, April 16, 1911, of heart trouble, aged 74 years.

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A FOREIGN BODY REMOVED FROM THE RIGHT BRONCHUS BY UPPER BRON- CHOSCOPY—SOME REMARKS ON A NEW METHOD OF PASSING THE BRONCHO- SCOPE.

By *Richard H. Johnston, M.D.,*
Baltimore.

DECEMBER 7, 1910, J. W. S., 21 years old, native of South Carolina, was brought to me by Dr. F. M. Winchester of Charlotte with the following history: December 4, while playing with his little niece, she placed a scarf pin in his mouth. He seized the head of the pin with his teeth and immediately afterwards coughed. The pin disappeared down his throat and its passage gave rise to a severe coughing spell. He hastened to his family physician, who told him he could do nothing for him, and advised him to see Dr. Winchester. He reached Charlotte Monday morning and saw Dr. Winchester that afternoon. That night at the Charlotte Sanatorium Dr. W. D. Wetherbee made an X-ray picture, which showed the pin in the right bronchus with the head down. The shadow of the pin covered three and a half ribs. On his arrival here the patient was in good condition, a slight cough being the only symptom. On the sleeper he had not slept well because the jolting of the train hurt his right chest. From the severe paroxysm of coughing when the pin disappeared, and its location in the chest to the right of the middle line, there could be no doubt that we had a foreign body of the right bronchus to deal with. The afternoon of December 7 the patient was given a hypodermic injection of morphine and atropine. A half hour later he was placed in the sitting position, with the head slightly extended. Cocaine was applied to the pharynx with curved forceps. After waiting a few minutes, Jackson's direct laryngoscope was passed and the larynx cocainized through it. There was no difficulty in passing a 7 mm. bronchoscope between the vocal cords and down the trachea into the right bronchus. When the end of the tube was 13 inches from the upper teeth the head and point of the pin could

be seen. The point was straight up in the bronchus just at the end of the bronchoscope. At this point, as I reached for my forceps to grasp the pin, the patient coughed and the pin disappeared. After hunting some minutes longer, I decided to postpone further action until the next day. The patient was prepared for a general anesthetic, and early the next morning an X-ray picture was taken, which showed the pin in about the same position, but apparently sticking in the outer wall of the bronchus. Assisted by Drs. Piggott, Willse and Stewart of the University Hospital staff, and under chloroform anesthesia, I passed the 9 mm. bronchoscope



X-RAY SHOWING PIN.

with the head in the straight position, the larynx having been first cocainized to prevent reflexes. After the passage of the tube between the vocal cords, the head was gently lowered over the end of the table until the Boyce position was gotten. Cocaine had to be applied to the tracheal mucous membrane to prevent cough. When the tube entered the bronchus a quantity of mucus was expelled, probably from the irritation of the membrane the day before. After the mucus had been wiped away, the tube was pushed down, and at 13 inches from the upper teeth the point of the pin was seen sticking in the outer wall of the bronchus. Pfau's foreign-body forceps were introduced through the tube, and at the first attempt the shank of the pin was grasped and carefully ma-

nipulated to free the point from its attachment to the mucous membrane. No effort was made to extract the pin for fear of driving the point through the wall of the bronchus. The patient coughed and the forceps were withdrawn. The point now presented itself free in the lumen of the bronchus. The forceps were again introduced, and the point seized and drawn up into the bronchoscope. The head was too large to pass through the tube. After satisfying myself that the pin was in the tube, forceps, pin and tube were drawn out together. The actual time in disengaging the pin and removing it was about five minutes. The entire operation took about 45 minutes. The pin was three and an eighth inches long. The patient recovered promptly from the anesthetic. That night his temperature was 99.2° and he was nauseated. The next morning the temperature was normal, and he declared himself well enough to start for home.

I wish to refer briefly to a new method of passing the bronchoscope, which has made bronchoscopy much easier for me. I think all laryngologists will admit that the difficult stage of bronchoscopy is in passing the tube between the vocal cords into the trachea. The vocal cords once passed, it requires no special skill to push the tube further down. In order to explain satisfactorily the new method it will be necessary to describe the older methods of direct laryngoscopy. As described by Killian and Jackson, direct laryngoscopy consists in throwing the head far back in extension to get the mouth, pharynx and larynx in the same straight line. Under general anesthesia the patient's head is dropped over the end of the table and held in the right position by an assistant. The operator sits or kneels at the head, passes the direct laryngoscope down, hooks the spatula end of the instrument around the epiglottis and pulls it with the base of the tongue upward. The left hand is suspended in the air, and the strain on the wrist is great, since the tenseness of all the neck muscles must be overcome. When the larynx comes into view the bronchoscope is passed through the laryngoscope between the vocal cords. The laryngoscopes are made in two pieces, so that they can be removed and the bronchoscope left *in situ*. It is almost impossible to operate in the larynx in the extended position under general anesthesia unless one works rapidly, which is dangerous. In April, 1908, Mosher published his "left lateral route," which consists in turning the patient's head to the left until the cheek almost touched the table, and flexing the head on the chest. A special instrument is then passed and the epiglottis hooked up. The instruments were too cumbersome and had to be used with a headlight, which I think is a disadvantage. On account of the difficulty of getting and keeping the head in the right position, and the cumbersome instruments, this method has not been generally adopted. In July, 1908, I conceived the idea of placing the patient's head straight on the table and passing the old Jackson laryngoscope down between the incisor teeth. The epiglottis was pulled up and a clear view of the larynx obtained. In my earlier work I placed a pillow

under the head to secure flexion. Further observation has convinced me that flexion is not necessary; a straight position of the head, held firmly by an assistant, makes direct laryngoscopy easy. After working with the straight method of direct laryngoscopy for some time, it occurred to me that it might be feasible to pass the bronchoscope in this position, thus eliminating the strain on the wrist and the force required to overcome the tense muscles in the extended position. At the University Hospital, where all our tube work is done, we have been trying for some time bronchoscopy in the straight position. It has worked admirably and has proven so easy that the work has become a pleasure. The method of procedure is as follows: The patient is placed on the table with the head in the normal straight position. A general anesthetic is administered. The modified direct laryngoscope is passed straight down between the incisor teeth, and when the epiglottis comes into view the spatula end of the instrument is hooked behind it. By making slight pressure on the upper teeth the epiglottis and base of the tongue are pulled up and the larynx opened for inspection. A weak solution of cocaine is now applied to the larynx through the tube to prevent reflexes. With the laryngoscope in position, the bronchoscope is passed through it to the vocal cords. With the eye fixed on the end of the smaller tube, a slight twisting motion is used, which sends the bronchoscope between the cords. The breathing is now distinctly tubal in character. The laryngoscope is removed and the head of the patient gently lowered over the end of the table. The examination is now proceeded with as in the extended position. In the above procedure the operator stands to the left of the patient and uses the laryngoscope in the left hand. Both direct laryngoscopy and bronchoscopy are easier because the muscles are relaxed.

807 North Charles street.

VAGINAL CELIOTOMY. By S. Wyllis Bandler, M.D., Adjunct Professor of Diseases of Women, New York Post-Graduate Medical School and Hospital. Octavo of 450 pages, with 148 illustrations. Philadelphia and London: W. B. Saunders Company. Cloth, \$5 net; half Morocco, \$6.50 net. 1911.

The long-felt want for a treatise on vaginal celiotomy by an American author has been fulfilled by the work of Bandler on "Vaginal Celiotomy." The work contains four hundred and fifty pages, and is profusely illustrated with wonderfully true cuts. The text is clearly written and shows a master hand. The author has not alone described clearly the number of operations that may be done through the vagina, but has illustrated every step in the technic of the operation. It is a work that will not be of a great deal of value to the general practitioner, but to the operating gynecologist it is one of invaluable aid. The arrangement of the book is admirable, and we wish it the success it deserves.

SALVARSAN IN RELATION TO DISEASES OF THE EYE—A REVIEW.*

By Harry Friedenwald, M.D.

Baltimore.

THE intense interest which was everywhere aroused in the Salvarsan treatment of syphilis led immediately to the inquiry as to what deleterious effects this drug may have upon the eye and upon sight—for recent experience with its analogues, atoxyl and arsacetin, had proved these to be very dangerous. But aside from the answer to this question it is important to learn what curative effects Salvarsan produces on the varied luetic manifestations in the different parts and tissues of the eye and its adnexa; for the eye by virtue of its transparency and of the variety of its tissues, offers a better field for the study of processes of the disease and of the effects of curative remedies than do most other parts of the body.

Though the period during which the medical world has had the opportunity to try this new remedy is short, the mass of publications is already huge, and the number of observations reaches high into the tens of thousands; still it is not possible as yet to speak with finality on any of the problems that have arisen. The variety of methods, according to which the remedy has been given, the fact that it has not yet been settled what the best method of administration is, and still more the fact that so large a part of the clinical material was observed for a short period—too short to fully determine the final action of the drug or the completeness of cure of the disease, greatly detract from the scientific value of the observations. Thus the percentages of recurrences vary between 29 per cent. (Michaelis) and almost 0 per cent. (Schlreiber). But some facts appear to be more or less definitely established, and it is on the preponderance of evidence that we must for the present rely. Some hesitation, due to the dangerous effects of other arsenical preparations as above mentioned, at first prevented the free use of Salvarsan in eye diseases. This accounts for the relatively small number of cases thus far reported. They have been gathered recently by Stuelpt†, from whose article I quote the following figures. The cases published subsequently do not change the percentages.

Cases have been reported in small numbers, showing the effect of Salvarsan in lid, conjunctival, scleral and orbital affections.

*Read at the annual meeting of the Medical and Chirurgical Faculty of Maryland, April 26, 1911.

†This article embraces all the cases to February 1, 1911. The bibliography is quite complete. Articles published subsequently are:

Beck (*Muench. Med. Woch.*, No. 3, 1911).

Marschalko (*Deutsch. Med. Woch.*, No. 5, 1911).

Treupel and Levi (*Muench. Med. Woch.*, No. 5, 1911).

Schanz (*Muench. Med. Woch.*, March 7, 1911).

Gilbert (*Muench. Med. Woch.*, No. 7).

De Schweinitz, G. E., and Shumway, E. A. (*Ophth. Rec.*, XX, p. 37).

Goldenberg (*Am. Journ. of Med. Sciences*, March and April, 1911).

Alexander (*Brit. Med. and Surg. Journ.*, March 9, 1911).

But they are too few to dwell on. Thus four cases of gumma of the lids improved rapidly or were healed completely in a few days. Of four cases of chancre of the lids three responded rapidly, one showed no improvement. Of three cases of syphilitic pemphigus there was no response in two; improvement in one. Of five cases of syphilitic scleritis, four were cured rapidly, the fifth improved, but there were recurrences in four cases. Four cases of exophthalmus, due to gummata, cleared up rapidly and completely.

There is a large number of observations on *Interstitial Keratitis*. Two of these were due to acquired syphilis and responded splendidly. The others were due to hereditary syphilis and showed:

| | |
|------------------------------------------------|---------|
| Rapid cure..... | 3 cases |
| Marked improvement..... | 4 " |
| Marked improvement after second injection..... | 2 " |
| No appreciable improvement..... | 6 " |
| Improvement followed by recurrence..... | 5 " |
| No result..... | 65 " |

This gives 70 per cent. of failures.

Ninety-nine cases of syphilitic uveitis are recorded, of which 63 showed marked improvement or rapid cure, 23 showed no result or aggravation, 13 improvement followed by recurrences. This shows failure in 26 per cent.

The results of treatment of 60 cases of syphilitic *Neuritis* and *Neuroretinitis* show rapid cure in 33 and improvement in 15, with failure in 12, or 20 per cent. There are reports on 24 cases of various forms of *atrophy of the optic nerves* with doubtful and slight (?) improvement in 6 and failures in 18.

One hundred and forty-six cases of *paralysis of the motor ocular nerves* are recorded, of which 18 rapidly recovered, 21 improved, 3 recovered after subsequent injection, 7 recurred and 97 showed no improvement; 66 per cent. were failures.*

I am inclined to the view that with the overenthusiastic and rapid publication of results, some cases of recurrence may have escaped record and that we may look for even a larger percentage of failures. On the other hand more effective methods of administration and multiple injections may greatly improve these figures. In brief, then, it appears that the percentage of failures in

| | |
|-------------------------------------|--------------|
| Interstitial Keratitis is..... | 70 per cent. |
| Uveitis is..... | 36 " " |
| Optic Neuritis is..... | 20 " " |
| Paralysis of Ocular Muscles is..... | 66 " " |

These results are distinctly less favorable than those reported for other forms of syphilis; thus Plaut's general statistics show failure only in 20 per cent. of cases. On the other hand the im-

*Salvarsan has been used in the treatment of sympathetic ophthalmia in four cases. In three it had no effect. In the fourth there was such prompt recovery as to indicate that the diagnosis was mistaken and the cause was syphilis. (Judassohn, Fleischer, Flemming.)

provement, when the remedy is effective, is usually very much more rapid and the treatment of much shorter duration than by the older methods of treatment.

The question of optic atrophy being caused by Salvarsan as it is by the analogous arsenical preparations is to be answered in the negative. No cases have occurred and even among those cases of optic atrophy treated with Salvarsan there were none which showed injury from the remedy.

On the other hand, however, a considerable number of observations is recorded in which ocular affections developed within a few months, usually about two months, after the Salvarsan treatment, affections some of which resemble the tertiary ocular lesions, though the cases were mostly in early stages of syphilis. Thus, there are recorded 15 cases of Iritis, 3 cases of Choroiditis, 15 cases of Optic Neuritis, 8 cases of Paralysis of Ocular Muscles and a number of cases of inequality of the pupils. Ehrlich explains these as recurrences and maintains that they usually disappear after subsequent injection. Some find other explanations, and a few regard these affections as due to the injurious effect of Salvarsan. Two cases, indeed, are recorded in which there was a negative Wasserman both before and after the Salvarsan injection, and yet ocular paralysis followed the injection (Stern). Most observers agree with Ehrlich that these affections are due to the syphilis and are not toxic. Still it appears that the affections of the optic and extrinsic ocular nerves as well as other cranial nerves are peculiar and that we are unfamiliar with them in the course of mercurial treatment of early syphilis.

Among the numerous temporary complications which appear to occasionally attend the Salvarsan injection, pericorneal injection and ciliary irritation, scotoma scintillans, momentary blindness and glaucomatous rise of intraocular pressure have been recorded. Conclusions:

1. We may conclude that the Salvarsan treatment, while frequently yielding brilliant results in cases of ocular syphilis, is not followed by as high a percentage of recoveries in diseases of the eye as of other parts of the body.

2. That Salvarsan does not produce optic nerve lesions analogous to the toxic effects of other similar arsenical preparations; but that it sometimes evokes optic neuritis and paralysis of other cranial nerves (and of the auditory nerves) apparently syphilitic in nature and usually disappearing in the course of further anti-syphilitic treatment. These conditions are different from any with which we have become familiar in the course of the mercurial treatment of early syphilis.

3. That Salvarsan is frequently efficacious where prolonged mercurial treatment has failed.

4. That Salvarsan is a remedy of high value in ocular syphilis, especially in the affections of the uveal tract and of optic neuritis.

DEMONSTRATION IN DUODENAL FEEDING.

By *Julius Friedenwald.*

Baltimore.

I WISH to demonstrate Einhorn's remarkable method of duodenal feeding, but before doing so beg leave to say a few words concerning the few facts leading up to this discovery. In 1908 Einhorn demonstrated that beads of different sizes attached to a silk thread when swallowed would pass through the pylorus unless there were a pyloric stenosis at hand. The thread was allowed to pass 75 c. m. from the lips. If a duodenal bucket is attached and covered with a gelatine capsule and left over night and withdrawn (often one can feel slight resistance when the bucket passes the pylorus), we find it usually filled with duodenal contents. It is usually yellowish and neutral, or very slightly acid, but contains no free HCl. That the bucket is really in the duodenum is demonstrated by the fact that the (1) bucket is withdrawn with bile-stained contents, faintly acid or alkaline, and showing presence of bile and pancreatic ferments; (2) string is yellow, from 60-70 c. m. from the teeth, and is white above this; (3) in withdrawing the bucket one sometimes feels a resistance caused by the pylorus; (4) X-ray shows bucket in duodenum.

Einhorn further showed that a bougie can be passed into the duodenum by pushing forward a catheter upon the thread, holding the duodenal bucket. The catheter is perforated at the lower end, and the end of the thread pulled through and the catheter pushed along.

Einhorn also devised a method of determining the presence of gastric and duodenal ulcers. The duodenal bucket is left in the stomach overnight and removed the next morning; if an ulcer is present, one finds the thread colored yellow from 63 to 73 c. m., and reddish brown from 58 to 66 c. m. if duodenal ulceration; 54 to 56 c. m. if pyloris ulcer; 44 to 54 c. m. if ulcer is in lesser curvature.

Einhorn next devised his duodenal pump, which contains his bucket to which is attached a small rubber tube, instead of a thread. This passes readily into the duodenum (75 c. m.) after being swallowed, and in a few hours is in position; through this pump intestinal secretion can be extracted; the pump can also be used for feeding purposes.

The apparatus is left in position for from 8 to 12 days. The rubber tube does not annoy the patient. The patient is fed every two hours; after feeding water is forced through the tube, and finally air is blown through and the stopcock closed. At one feeding 240 to 300 c. c. of food are introduced at the body temperature. Einhorn uses 240 c. c. of milk, 1 raw egg and 15 grams of milk sugar. That this tube is in the duodenum can be shown (1) by

withdrawing intestinal contents containing pancreatic secretion and bile; (2) X-ray examination.

Einhorn has perfected another instrument, known as his duodenal dilator, which he has used with some success in dilating certain pyloric strictures.

IDEAL ANESTHESIA.

By *Emory Lanphear, M.D., Ph.D., LL.D.*
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Professor of Surgical Anatomy and Clinical Surgery in the American Medical College.

An editorial writer in a recent number of the *MARYLAND MEDICAL JOURNAL* wisely points out the advantages of local over general anesthesia in a wide range of cases. But he, like many another surgeon and anesthetist, either is not familiar with the work of Chenault, Hertzler and others of the Great West in developing local anesthesia by an agent as effective as cocaine and absolutely non-toxic in effect, or is reluctant to admit that there are methods superior to the ones with which he is most familiar. We all are inclined to be slow in changing from lines of thought and work which we have found to be fairly satisfactory. Note, for instance, the hesitancy of surgeons and anesthetists of the Atlantic Seaboard in making use of the hyoscine-morphine injections as a preliminary to either general or local anesthesia, despite the fact that I have recorded and widely published from my own practice more than 2000 major operations done under its influence, with reference to more than 7,000,000 injections, with only eight deaths reported. They have become so scared at the alarming reports of fatalities under impure scopolamine-morphine injections—wholly different from pure hyoscine-morphine tablets—that, in many instances, they positively decline to read the evidence of the dangers of the one contrasted with evidence of the safety of the other. Even the evidently progressive writer of the commendable editorial above mentioned, in advising the injection of a quarter grain of morphine an hour before operation, fails to mention the fact that the addition of one-hundredth of a grain of hyoscine hydrobromide would add immensely to the comfort of the patient both during and after operation.

The advantages of local anesthesia by means of cocaine injections cannot be questioned by anyone who has used this agent extensively. It is without superior for superficial, and not prolonged, surgical procedures; but, unfortunately, it possesses certain disadvantages which cannot be overcome.

The objectionable features of cocaine are the following:

- (1) It cannot be rendered sterile by dry heat applied to the drug, nor by boiling the solution.
- (2) Its action is too transitory for many major operations which otherwise well might be performed under its influence.
- (3) Certain individuals have an idiosyncrasy for this powerful

drug, so that even from the very weak solutions now employed alarming, if not positively dangerous, symptoms sometimes occur.

AN IDEAL ANESTHESIA.

We of the West have developed a form of anesthesia which is ideal in effect, in safety and in ultimate result for all sorts of cases where the patient does not object to semi-consciousness during the operative procedures.

The gentlemen above mentioned have shown the profession that a $1\frac{1}{2}$ per cent. solution of hydrochloride of quinine and urea induces an anesthesia which is as perfect as that produced by cocaine, is non-poisonous in any quantity and gives an anesthesia which persists for many hours.

One hour before operation an injection is made of one-fourth grain of morphine hydrobromide with one-hundredth of hyoscine hydrobromide (*not* scopolamine, which may be inert upon the one hand or highly dangerous upon the other), or a hyoscine-morphine-cactin, full-strength tablet. This tranquilizes the patient, diminishes fear and causes a considerable degree of cutaneous analgesia. For minor operations the one injection, plus the local anesthetic, gives perfect results.

When greatly-prolonged operative work is to be done upon a patient who is very nervous, or who has great dread of the operating-room, two injections of hyoscine-morphine are to be preferred; one full dose three hours before operation, and a second an hour and a half later. The local anesthesia is injected at least five minutes before cutting is begun, and a little longer time is still better.

The anesthesia thus induced is ideal, *i. e.*, the analgesia is perfect; the patient is sufficiently conscious to obey commands; the effects are so prolonged that the most serious, protracted operation may be performed without haste.

A beautiful feature of this anesthesia is that post-operative pain is entirely abolished. In some cases sensation in the infiltrated tissues is not restored for several days.

To many operators economy is important. This form of anesthesia costs less than 20 cents, as compared with \$1 to \$3 for ether. Besides, no anesthetist is needed, thus saving from \$5 to \$10, according to circumstances.

Moreover, the ability to get along without an anesthetist is of great importance to the doctor practicing surgery in regions remote by help. In emergency one may thus operate alone in strangled hernia, intestinal obstruction, gunshot wounds and other accident cases where long delay might prove fatal.

In fact, the advantages of this form of anesthesia are so many and so prominent that a single trial will convince even the most skeptical that in this combination of semi-narcosis and local analgesia we have found what I have called it—"the ideal anesthesia."

A REVIEW OF THE TONSIL QUESTION, WITH SOME PERSONAL EXPERIENCES.*

By *H. E. Peterman, M.D.,*
Baltimore.

THE rôle played by the tonsils in causing disease is one of increasing importance to every practitioner of medicine, for the reason that the pathological changes occurring in these glands have a very general effect on the whole human economy. These pathological changes are the cause of many conditions which lead to ill-health, and the general practitioner, as well as the specialist, is constantly being called upon to treat and relieve diseases which are directly traceable to changes in the tonsils. It has been predicted that with our increasing knowledge on this subject, it will be necessary to rewrite many chapters on internal medicine. It is also interesting to note that most of the advancement made in this line of work has been on this continent.

The literature on this subject has become voluminous during the last 10 years, largely due to the fact that this important field had been previously neglected. During this time great advances have been made in the scientific treatment of diseased condition of the tonsils, and this has been almost entirely surgical.

In this paper I wish to give a brief review of the literature on this subject, together with some comments on my own experience in this line of work.

First to be considered is the physiology or function of this organ which is credited with causing so much trouble. On this part of the subject less advance has been made than on any other. Among those who have spent considerable time on this part of the subject there is great difference of opinion.

The following are some of the most commonly-accepted functions of the tonsil:

First.—That the normal tonsil acts as a barrier, and prevents the entrance of pathogenic organisms into the body.

Second.—That in early life it assists leucocytosis and gives off phagocytes.

Third.—When normal and in health, it is a producer of white cells.

Among the more doubtful functions are that they affect some valuable changes in metabolism as yet undiscovered, similar to the thyroid and thymus glands, but not so important; also, that they have an important function in the act of digestion, moistening the food and producing a digestive ferment. Some authorities, notably Bosworth¹, claim that the tonsil has no function, and that when it is enlarged or diseased it should be removed, as any tumor. If the tonsil in its normal state is carefully removed in its capsule,

*Read before the one hundred and thirteenth annual meeting of the Medical and Chirurgical Faculty of Maryland.

we do not find any serious after effects, as is the case in removing the thyroid, while on the other hand, where the tonsil is hypertrophied, and therefore obstructive or otherwise diseased and is entirely removed, it is common clinical experience to find the patient gain in weight and improve in health. This improvement is caused by the removal of an infecting focus, and also by a mass which previously hindered proper respiration.

Most authors agree that the most important functions of the tonsil are present in childhood. Normally it attains full development from the sixth to the tenth year, and then begins to atrophy. By the fifteenth year it should have almost entirely disappeared, and should it remain visible between the arches of the palate after this period it should be considered a pathological condition.

The question might now be asked, "When are tonsils diseased, and what are the indications for their removal?" This question is admirably answered by Beck². He divides the conditions benefited by the complete enucleation of the tonsils as follows:

First.—Local, or conditions affecting the tonsil itself.

Second.—Regional, or conditions in close proximity to the tonsil.

Third.—Systemic or general.

The local conditions demanding complete removal of the tonsils are:

First.—Chronic lacunar tonsillitis in which there are repeated acute attacks.

Second.—Chronic lacunar tonsillitis in which there are repeated attacks of peritonsilar abscess or quinsy.

Third.—Tuberculosis of the tonsil.

Fourth.—Primary chancre of the tonsil.

Fifth.—Malignant disease of the tonsil.

Sixth.—Excessive hypertrophy which interferes with proper respiration or modifies the voice.

The regional conditions demanding enucleation are:

First.—Chronic persistent pharyngitis.

Second.—Tubal catarrh, with associated middle ear disease.

Third.—Enlarged glands of the neck.

Fourth.—Apical tuberculosis infection.

Fifth.—Persistent bronchitis in children.

The general or systemic conditions are:

First.—Rheumatism, with its complications, and sequale as endocarditis, myocarditis, pericarditis, arthritis, pleurisy, peritonitis, perineuritis and myositis or so-called muscular rheumatism.

Second.—Blood changes, as chronic septicemia, with secondary enemias.

Third.—Gastro-intestinal disturbances, such as gastro-enteritis and duodenal catarrh.

Fourth.—Parenchymatous changes, such as parenchymatous nephritis, hepatitis and pancreatitis.

Fifth.—Changes in the special organs, as episcleritis, phlyctenular keratitis and conjunctivitis.

This enumeration covers the ground in a thorough manner, but this list can be still further extended, as cases of pneumonia, appendicitis, oophoritis and orchitis, chronic urethritis and ureteritis; also many skin diseases have been reported as following tonsillitis and having a definite relation to diseased conditions of the tonsils.

There is no doubt that in many of these diseases, especially where they do not respond to treatment, and where the cause is obscure, the attending physician should carefully examine into the condition of the tonsils, and there he will in many instances find the cause of the trouble.

ENLARGED CERVICAL LYMPHATIC GLANDS.

Authorities, generally, agree that there is a very definite relation existing between enlarged cervical glands and the tonsil, as it has been proven that the infecting agent generally finds its portal of entry through this organ. The faucial tonsil, as well as the pharyngeal tonsil, is a part of the so-called Waldeyer's lymphatic ring, and in this manner infection travels directly from the faucial tonsil to the tonsillar lymph gland situated just behind and below the angle of the jaw, and in turn infects other glands in the chain. It should be a routine practice in all cases of enlarged glands of the neck to very thoroughly examine into the condition of the tonsils, as very generally the source of the infection will be found there. There may be a history of the tonsils having been previously removed, but unless an enucleation was practiced the stumps of the tonsils will be just as likely to furnish the portal of entry for the infection as if the tonsils had never been touched. Abundance of proof is furnished to establish these facts by many investigators, who have practiced enucleation of the tonsils and later found the enlarged glands to disappear. These facts have been corroborated by a number of cases in my own experience.

The most convincing proof has probably been furnished by Beck³ of Chicago, who, in order to prove the efficacy of the enucleation of the tonsil in causing enlarged glands of the neck to disappear and prevent recurrence of the same, made the following tests:

Taking a case of bilateral glandular enlargement in which the tonsils appeared to be diseased, he performed a radical operation on the glands of one side extending from the stylo mastoid region to the region below the clavicle in the anterior, as well as the posterior, triangle, superficial and deep. Altogether 46 glands were removed. Sometime after the patient recovered an enucleation of the tonsil was performed on the opposite side, where the glands had not been operated upon. The patient was placed under the best conditions—hygienic, dietetic and climatic—and after six months returned for examination. The patient was improved in health, the glands on the side where the tonsil was enucleated had disappeared, while on the opposite side where the glands had been radically removed and the diseased tonsil left in place four glands

had become newly enlarged below the sterno mastoid muscle. From this his conclusions are as follows:

First.—When the glands do not disappear after removal of the tonsil, that the tonsil was not radically enucleated; or,

Second.—Infection is from some other source; or,

Third.—That caseation or abscess formation had already taken place.

TUBERCULOSIS.

In tuberculosis of the tonsil we also find the cervical glands enlarged, and particularly the gland at the angle of the jaw. Hurd⁴ says "that this glandular enlargement is due to septic absorption, or to the absorption of the tubercle bacillus, and that this absorption takes place after the tonsillar resistance has been weakened by disease, so that it may easily allow the tubercle bacillus or other infection to enter and invade the cervical lymphatics." Wood, Friedman, Straussman and others have shown that the tubercle bacillus may pass through the tonsil and invade the cervical lymphatics without leaving any evidence of its having passed through this organ. Authors writing upon this subject are inclined to divide it into clinical and latent tuberculosis of the tonsil. Levy⁵ says clinical and latent tuberculosis are differentiated essentially by the absence of subjective and objective symptoms in the latter, and with definite subjective and objective manifestations in the former. Microscopically, the differences are not so great. He describes the clinical appearance of the tuberculous tonsil as follows: "It has a peculiar pallor, with a slightly edematous or weeping surface, covered with a tenacious, thin, somewhat milky secretion. Localized areas of small pin-head white or grayish deposits of greater or less extent are seen definitely situated beneath the surface of the mucous membrane. Somewhat later one sees the beginning of ulceration manifesting itself by a superficial excavation, irregular in outline and unattended by inflammatory surrounding redness. As the disease progresses these typical appearances become more pronounced, the ulcerations coalescing in irregular manner, giving a nibbled or mouse-eaten outline to the parts. With the excess of disturbance the edema becomes greater, presenting definitely outlined, though not circumscribed, swelling. The subjective symptoms are those of discomfort in the throat, followed by pain, which becomes severe, and is usually associated with more or less marked constitutional symptoms, such as fever, rapid pulse and loss of weight. This so-called clinical form of tuberculosis of the tonsil is, according to most authors, of rare occurrence, and should be easily distinguished from other conditions. Syphilis of the tonsil may closely resemble it, but by use of the Wassermann test a diagnosis should be easily made.

Tuberculosis of the tonsil, as described, is usually secondary to the serious involvement of other parts, and naturally extirpation may not materially benefit the patient; however, should this form occur primarily in the tonsil, an early enucleation is demanded.

In latent tuberculosis of the tonsil the visible changes are not marked, and a definite diagnosis is only made when examined microscopically after removal. This examination should be made very carefully, as Wood⁶ has proven that giant cells and lesions resembling tubercles may result from the irritation of foreign bodies, and that certain acid fast bacilli will sometimes give rise to changes scarcely distinguishable from true tubercles. There is no doubt but that latent tuberculosis of the tonsils is of comparatively frequent occurrence. Careful examination of tonsils removed from patients having cervical adenitis will show this to be the case.

RHEUMATISM.

Rheumatism and its allied conditions are also found to have in many cases a very definite relation to diseased conditions of the tonsils. Much remains as yet to be worked out as to the exact cause of this disease. The theory of direct infection is generally displacing the older theories of exposure, uric acid, etc. A number of investigators have been working along this line, and they have furnished some convincing proof of the theory of direct infection. No doubt exposure to wet and cold is an important contributing factor in the causation of rheumatism, lowering the body tone and resistance, and giving the infecting agent a better opportunity to gain a foothold.

Many cases of rheumatism are preceded by an attack of tonsillitis, and it is possible that with the lowered bodily resistance during this condition the phagocytes in the tonsil are overpowered, and infection readily enters. Many writers have reported cases of rheumatism clearing up after enucleation of the tonsils. I have had three such cases in my own practice.

One very striking case, a young man 21 years of age, had had a number of attacks of acute articular rheumatism. In the six months preceding the enucleation of his tonsils he had been confined to bed on two different occasions for periods of nearly two weeks. He had had many attacks previous to this, but generally not so severe. These attacks of rheumatism were in nearly every instance preceded by a sore throat, generally in the form of lacunar tonsillitis. Nearly five years have intervened since his tonsils were removed, and in this time he has never had a sign of the return of his rheumatism.

Among the many writers on this subject who have given definite reports of cases are Beck, Richards, Welty, Cohen, Robertson, Elliott, Ross and Rosenheim. The conclusions of all of them are about the same—that where rheumatism is preceded by or occurs concurrently with tonsillitis, relief from the rheumatism may be obtained later by removal of the tonsils.

In a very exhaustive review of this subject on "The Present Status of the Tonsil Operation," Richards⁷ asked the opinion of a large number of laryngologists—their views in regard to the relation between the tonsils and rheumatism. Eighty-three replied in

the affirmative as to rheumatism in general; two qualified by applying it to muscular rheumatism only; six thought it occurred, but only occasionally; three thought so, but had no proof; four had observed endocarditis and one pericarditis after tonsillitis; thirty-five were doubtful as to any relation, or did not believe there was any.

NEPHRITIS.

The condition of nephritis is one that is very often associated with tonsillitis, occurring generally after the tonsillitis has subsided. I have had several such cases in my own practice. It occurs generally in the hemorrhagic form, and may in many instances pass unrecognized unless the symptoms should be sufficiently severe to call the attending physician's attention to the condition of the kidneys. Loeb⁸ has written an exhaustive article on this subject, in which he reports four well-defined cases. He believes that this condition is a frequent one after attacks of tonsillitis, and is very often of a mild nature, causing the patient but slight indisposition, and therefore passes unrecognized. He also says that chronic affections of the kidneys may in many instances owe their origin to acute attacks of nephritis of tonsillar origin. There is no doubt but that the urine should be carefully examined at the height of attacks of tonsillitis, as well as a number of times thereafter.

MIDDLE EAR DISEASE.

All men practicing this specialty are many times impressed with the close association between hypertrophied tonsil and tubal catarrh, and later with changes in the middle ear producing various degrees of deafness. True it is that these conditions are more intimately associated with hypertrophy of the pharyngeal tonsil (adenoids), but hypertrophy of the faucial tonsils have a very direct bearing on many of these cases, and in my own experience I never feel satisfied that I have done my duty to these patients unless I insist upon the removal of tonsils that are in any way hypertrophied. In this instance it seems that the harm is done largely by the presence of the hypertrophied tonsil in interfering with the proper circulation around the Eustachian tube, causing a passive hyperemia, and also in interfering with the proper action of the palato glossus and palato pharyngeus muscles. These muscles aid in the movements of, and also in the proper functioning of, the Eustachian tube.

PHLYCTENULAR KERATITIS AND CONJUNCTIVITIS.

The ophthalmologist sees many cases of phlyctenular keratitis and conjunctivitis, often associated with enlargement of the cervical lymphatic glands. This condition is very resistant to treatment, and may recur many times. It generally leaves many unsightly scars on the cornea, which naturally interfere with good vision. In these cases I have repeatedly seen the condition clear up, sometimes in magic form, after a careful removal of the faucial and

pharyngeal tonsils. There are many other conditions which might be discussed, but the length of this paper will not permit.

After this consideration we naturally come to a very important part of the subject—the treatment of the hypertrophied and diseased tonsil. On this part of the subject there is not entirely unanimity of opinion. Some writers are conservative and others radical in their views. There is no doubt that tonsils should be removed when it is definitely ascertained that their presence is a menace to the health and well-being of the patient, and especially so when the condition cannot be cured by other treatment.

It is my belief that the tonsils perform an important function in childhood, and I seldom perform a tonsillectomy in children under six years of age unless there is some special condition demanding it.

Most writers who are radical in their views contend that enough tonsil tissue remains at the base even after a careful tonsillectomy to carry out any function of the tonsil.

Tonsillectomy should be always classed as a major operation, for the reason that it is generally necessary to administer a general anesthetic; also, the fact that severe hemorrhage is very often encountered, and in this region it is very difficult of control.

There is no doubt but that it is much easier to perform this operation under a local anesthetic, and when the patient is an adult and not of the nervous type, it can be performed very satisfactorily in this manner. It should always be done in a hospital, where the patient will be under the care of a trained nurse and the house physician.

For local anesthesia cocaine or alypin may be used with the addition of a few drops of adrenalin. This should be brushed over the tonsils, and also injected, and, if preceded by a hypodermic injection of morphia, the anesthesia will be more satisfactory. The operation can be performed in this manner with the loss of very little blood in much less time, with less traumatism and less soreness after.

The principal drawback to this procedure is that occasionally, when the effect of the adrenalin has passed off, the bleeding may recur, and the house physician may find it necessary to clamp, and possibly tie, a vessel later. This post-operative bleeding is very disconcerting to the surgeon who has performed a clean operation and left his patient in apparently a good condition. It is for this reason, also on account of the occasional trouble with cocaine, that many surgeons have abandoned the use of adrenalin and local anesthesia.

For children and nervous adults it will always be necessary to administer a general anesthetic, and ether is invariably the one of choice unless there is some particular contraindication present. There is no doubt but that the operation is more difficult to perform in this way, requiring a corps of trained assistants to assist in managing the mouth gag, the tongue depresser and sponging the blood

and secretions from the pharynx. Under ether the bleeding is quite free and the bronchial secretions very active. The free bleeding so obscures the field of operation that unless the operator is skilful and very careful he may severely injure the arches of the palate, and in this way defeat the advantages of the operation.

Tonsillotomy, as performed by the use of the tonsillitome and tonsil punch, is a comparatively simple operation unless severe hemorrhage is encountered. While, on the other hand, tonsillectomy, which means a careful removal of the tonsil in its capsule, is a very difficult and technical procedure, and, it is needless to say, should not be performed by anyone who is not thoroughly familiar with the required technique and able to cope with any emergencies which may arise. Operators differ greatly with regard to the technique which they follow in performing this operation. Some use cutting instruments; others blunt or dull dissectors, and still others use the index finger to separate the tonsil from its bed.

The operation as I perform it does not materially differ in detail from that as described by a number of writers on the subject. The patient, thoroughly anesthetized, and if under a general anesthetic, is placed in the prone position. The tonsil is then grasped with the vulsellum forceps and drawn inward, which usually gives a very definite outline of the gland. A small incision is then made into the mucous membrane, or through the plica tonsillaris, close to the margin of the anterior pillar. This I generally do with a snip of the straight scissors, or it may be done with a knife. In doing this I try to avoid cutting through into the tonsillar tissue. I then insert the closed blades of the straight scissors into this incision, and by opening them up a few times one can, as a rule, very easily find the point of cleavage and get behind the capsule of the tonsil.

I consider this first step the key to the successful enucleation of this gland. By this I mean getting properly started under the capsule or between the capsule and the parts lying underneath. After being properly started in the manner described, the line of cleavage being followed above and behind the tonsil by the use of the dull dissector or the finger, it will be separated from its bed, with the exception of its base. The operation is then quickly completed by the use of a strong snare, carrying a heavy wire. This is thrown around the tonsil, which is then grasped with a vulsellum forceps and drawn into the pharynx before being cut off. The wire of the snare, properly held, follows around and behind the capsule, and very little, if any, tonsil tissue remains at the base.

During the entire procedure there will be considerable hemorrhage, which will obscure the parts, and it requires a competent assistant to mop or sponge the blood and secretions and keep the field of operation in view. When the tonsil is detached a gauze sponge grasped in a long pair of forceps is tucked snugly into the recess from which the tonsil came, and held there securely for a few minutes, when the anesthetic may be continued. The sponge

is then removed, and careful search is made for bleeding points. Should there be any, they are clamped by means of long haemostats. The Pean's hysterectomy clamp, sometimes known as the Kelly clamp, is a most useful instrument for this purpose, as well as for carrying sponges. Should the clamping not quickly control bleeding points, it is well to throw a ligature around and secure them in this way. Occasionally spurting vessels are encountered, and it is always well to tie these. To successfully tie a bleeding vessel in the tonsillar fossa is a very difficult manipulation, but it is the only way of certainly stopping the bleeding if clamping and crushing the vessel will not do so.

In like manner the second tonsil is removed, and also adenoid tissue if it is present. The patient should not be taken from the operating room until all bleeding is checked and the throat dry.

The dangers of the operation are from hemorrhage, injury to the muscular structures surrounding the tonsils and infection of the wound. Before the perfection of the technique of the operation hemorrhage was a real danger, and many fatal cases were reported. It is still a real danger in the case of hemophiliacs.

In reviewing the literature and in conversation with those who have recently visited the famous European clinics, it is very interesting to note the difference of opinion in regard to this question between ourselves and those on the other side of the water. In Scotland alone, of all the countries of Europe, the radical operation is advocated, and there the tonsillitome has not entirely fallen into disuse.

Many noted men, among them Killian of Germany, Davis, Tilley and Grant of England, Massei of Italy, Luc of France, Chiari and Hajek of Austria, advise against the radical enucleation of the tonsil, and only perform this operation for malignant disease. The reason for this conservatism or difference of opinion seems to be the belief that physiologists have not as yet definitely determined the function of the tonsil, and that we may find that we are radically removing a gland which performs an important function in the human body. Time alone will tell whether the treatment we are carrying out or that of our brothers across the water is right.

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REVIEW IN GYNECOLOGY AND OB- STETRICS.

Under the Supervision of A. Samuels, M.D.

THE INDICATIONS FOR CAESAREAN SECTION AND ITS ALTERNATIVE IN WOMEN WITH CONTRACTED PELVIS WHO HAVE BEEN EXPOSED TO SEPTIC INFECTION.

REALIZING the high death rate of classical Caesarean section in "suspect" and septic cases, obstetricians have been continually inventing alternative operations. For a long time Poro's operation held the field, though it was not originally employed especially in septic cases, but as a routine operation. Its success in reducing the death rate from 88 per cent. to 55 per cent. was due first to the fact that there were faults in the operation of Caesarean section as then performed, and secondly to the fact that the large majority of cases of labor with contracted pelvis at that date had previously had attempts of all sorts made to deliver them so as to avoid the enormous morbidity of Caesarean section, and, as a result, they were in most instances already septic.

To avoid craniotomy, the Sigaultian operation of symphysiotomy was first performed in 1777, and revived in 1866, but its post-operative morbidity has prevented it being largely adopted in this country. At a later date pubiotomy was strongly recommended, even in septic cases. To avoid the obvious risk of opening up the cellular tissue and dividing the bone, subcutaneous methods were adopted. It soon became evident to most operators that the pubiotomy and symphysiotomy, however suitable for a moderate degree of pelvic contraction, became dangerous to life, or were accompanied by an enormous morbidity during convalescence if the patient was septic. To avoid, therefore, the alternative of craniotomy or Caesarean hysterectomy, some obstetricians have endeavored during the last three or four years to extract the child without the peritoneal cavity being involved. In this so-called "extra peritoneal" Caesarean section, the peritoneum is stripped off from the lower uterine segment without opening the peritoneal cavity. Frequently this stripping of the peritoneum from the lower segment is impossible and at times produces extensive injury to the peritoneum, so that it is more preferable to open the peritoneal cavity and then to incise the visceral peritoneum where it is most loosely applied, usually at the point of overlapping of the bladder and uterus, and stripping off some of the peritoneum, stitch it temporarily to the parietal peritoneum at the margin of the abdominal wound. This is usually applied to transperitoneal Caesarean section. The extra peritoneal operations are difficult, and the technique must be varied according to the difficulties experienced. The opinion is steadily gaining ground that in septic cases it is a dangerous procedure.

At the recent International Congress of Obstetricians at St. Pe-

tersburg, Bumm, Brandt and Pestialloza all agreed that the present methods of dealing with "suspect" cases and infected cases were unsatisfactory. To briefly quote their opinion Bumm says, "for feverish women with septic genital canal there is not yet found an absolutely sure method of Caesarean operation." Brandt alludes to the absence of any operation suited in these septic cases, and goes on to say that no one would perform the extra peritoneal variety instead of classical Caesarean section in infected cases because the mortality is very high. He spoke favorably of supervaginal hysterectomy, with extra peritoneal treatment of the stump in these infected cases. In his opinion he is upheld by Schauta. Brandt disapproves of symphysiotomy, but has performed hebosteotomy not only in suspect cases, but in cases definitely infected.

As regards craniotomy, he says that in primaparea when infection is undoubtedly present, craniotomy is the best and surest treatment; that by it one life already compromised is lost, whereas by all other methods two lives will probably be sacrificed.

Patulosa of Rome, Italy, considers that extra peritoneal Caesarean section is safer than classical Caesarean section in suspect cases. In definitely infected cases he agrees that neither classical nor extra peritoneal Caesarean section is admissible; but, wherever possible, embryotomy should be performed. If the *conjugata vera* is as small as 5 c.m., the methods selected should be Poro's operation.

The subject of infection from a bacteriological point of view is of great importance in the treatment of these septic cases. With the knowledge of the type of the germs found to be present, the treatment or operation can be varied and a successful outcome obtained, whereas, without the knowledge it will be simply a case of guess which operation should be performed.

For discussion we may roughly divide the organisms into pathogenic and putrefactive. Without going into details as to the description of these organisms that may cause infection, either the putrefactive or the pathogenic, or both of these types of organisms may *INFECTION* the patient and prevent primary healing of the wound. If either one of these types of the organisms are found in large quantities in the blood of the patient the outcome is grave. The decomposition of the liquor amnii by ascending putrefactive germs is less dangerous than the presence of the streptococci, but the appearance of either organism in the liquor amnii leaves no doubt as to the existence of a virulent infection.

Bumm advances the theory that if the amnion has been ruptured for some time, and there is found only a slight elevation of temperature, classical Caesarean is invariably fatal. He further adds: "In performing supervaginal symphysary Caesarean section, if one succeeds in finishing the obstetric act extra-peritoneally and draining the cellular tissue wounds, the danger of the general infection may be avoided in those cases of simple putrefactive de-

composition of the liquor amnii. If, however, the uterus at the time of the operation already contains streptococci, a fatal result generally follows." So it may be seen that probably the best way to consider the treatment of these septic or "suspect" cases would be to class them, if possible, into certain clinical groups and the appropriate surgical indication performed.

Routh (Caesarean Section and Its Alternatives, Journal of Obstetrics and Gynecology of the British Empire, Vol. XIX., No. 2) has grouped these cases in an admirable manner.

(1) Cases which have been exposed to infection, but where the membranes are not ruptured. If germs had been carried into the vagina during previous examinations they could almost certainly be destroyed or rendered harmless by copious vaginal douches of 1 to 1000 sublimate or biniodide of mercury solutions.

(2) Second Type of Case. In labor some hours, membranes ruptured, vaginal examination made, no feverishness, no offensive discharge.

This case is necessarily "suspect." If the bacteriological examination of the liquor amnii shows that it was sterile, a classical Caesarean section could be safely done, though some would prefer to eventrate the uterus before incision, as the woman has been previously examined. If germs were found in the liquor amnii it would be dealt with as Type 3 or 4, according to the variety of germs.

(3) Third Type of Case. In labor some hours, membranes ruptured, examination made or attempts at delivery, some offensiveness of discharge, possibly some feverishness. We will assume that saprophytic organisms are found in the liquor amnii, but no pathogenic organism. Primary union of the uterine wound might fail in these cases, and unless an *utero abdominal* fistula formed, fatal peritonitis would follow.

(4) Fourth Type of Case. In labor many hours, membranes ruptured, frequent examinations made or attempts at delivery. Pathogenic germs of potential virulence found. In this class of case, craniotomy would no doubt be preferable, but it must be remembered that abrasions of the cervix and vagina during the extraction of the mutilated foetus after craniotomy are almost inevitable, and if virulent germs such as streptococci were present in the amniotic cavity, the maternal tissues would become infected and septicemia would occur.

HYGIENE OF PREGNANCY. By E. S. Harris, Blue Springs, Mo.
25 cents. Fifth edition. 1911.

This pamphlet, though written in a popular vein, is absolutely ethical and in its way replete with information useful to expectant mothers, who will find it of much aid as a guide during pregnancy and in the raising of the child.

Book Reviews.

A HANDBOOK OF OBSTETRIC NURSING FOR NURSES, STUDENTS AND MOTHERS. Comprising the Courses of Instruction in Obstetric Nursing Given to the Pupils of the Training School for Nurses Connected with the Woman's Hospital of Philadelphia. By Anna M. Fullerton, M.D., formerly Obstetrician, Gynecologist and Surgeon to the Woman's Hospital of Philadelphia; Physician in Charge and Superintendent of its Nurse School, and Clinical Professor of Gynecology in the Woman's Medical College of Pennsylvania; late Lecturer on Surgery and Operative Midwifery in the North India School of Medicine for Women. Seventh revised edition, illustrated. Philadelphia: P. Blakiston's Son Company. 1911. Cloth, \$1 net.

The present volume of Fullerton's Obstetric Nursing has been somewhat changed, so that it is now a modern epitome of the essentials in obstetric nursing. It is a very nice book for nurses to follow, giving this class of readers a sufficiency for their needs. Every aspect of pregnancy, including the care of the new-born babe, is touched upon, and to our mind as thoroughly as a book of this character demands. Nurses will find it the same reliable book as the previous editions.

A HANDBOOK OF PRACTICAL TREATMENT. By many writers. Edited by John H. Musser, M.D., LL.D., Professor of Clinical Medicine in the University of Pennsylvania, and A. O. J. Kelly, A.M., M.D., Assistant Professor of Medicine in the University of Pennsylvania, Philadelphia. Volume II. Octavo of 865 pages. Illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical & Standard Book Co. Per volume, cloth, \$6 net. Half Morocco, \$7.50 net. 1911.

The second volume is perhaps of more interest to the general practitioner than the first, in so far as its contents are more concerned with those affections with which the general practitioner is concerned. Here is to be found sections on the diseases of the cardiovascular system, by Sir Clifford Allbutt; the surgery of the heart, by Clinton T. Dent; typhoid fever, by Rufus L. Cole; the surgical complications of typhoid fever, by M. T. Finney; pneumonia, by Hobart Amory Hare, and diphtheria, intubation and tracheotomy in diphtheria, scarlet fever, measles, tuberculosis, syphilis, gonococcal infection, vaccinia, variola, cerebro-spinal fever, cholera Asiatica, yellow fever, dengue, tetanus, glanders, rabies, foot-and-mouth disease, leprosy, tropical diseases, the ocular complications of the infectious diseases, animal parasites, etc., by authors of equal reputation to the before mentioned.

Particularly illuminating is the statement by Allbutt that the effusions of pericarditis can be swept out by purgatives, dia-

phoretics and diuretics is contrary to his experience, which dictates, on the other hand, that such methods, unless in strict moderation, by lowering the tone of the circulation, is harmful. Aconite cannot be serviceable under any conditions which he can suppose, and may be mischievous. Effusions may be stationary for a week or two and then spontaneously and quickly pass away. He is also of the opinion that paracentesis is made use of too little.

In this book one gets 865 pages of treatment—and good, sensible treatment at that—by experts: consequently, it is extremely difficult to select abstracts from any one section as being especially more meritorious than another. If the reader desires the latest and best in the treatment of such affection as tuberculosis, typhoid fever, diphtheria, yellow fever, malaria, beriberi, amebic dysentery, diseases of the heart, both acute and chronic, etc., he can get it here. The book will be found useful to general practitioner, student, internist, surgeon and teacher not only as a reference book, but also as a textbook.

WHAT SHALL I EAT? A Manual of Rational Feeding. By F. X. Gouraud, formerly Chief of the Laboratory of the Medical Faculty of Paris. With a Preface by Professor Armand Gautier of Paris. Only authorized translation into the English language by Francis J. Rebman. With a glossary containing definitions of the principal technical terms, and an index of diseases referred to in the text. 1911. Cloth, \$1.50 net. New York and London: Rebman Company.

Proper eating has become a burning question of late. Much literature is accumulating on the subject, out of which no doubt some scientific method of feeding will be evolved. Certainly the appetite is too capricious to be trusted as a rational guide. Moreover, many ills are the result of imprudent or improper eating, so a book from so eminent a scientist as Dr. Gouraud is particularly welcome at this time. Particularly interesting are the chapters on alcohol and vegetarianism. As a matter of fact, the book from cover to cover is full of good, practical directions for proper feeding both in health and disease. In the chapter on meat the author takes up the interesting question of the purin bodies. The book should be in the library of every physician who is endeavoring to feed his patients scientifically.

MANUAL OF CYSTOSCOPY. By J. Bentley Squier, M.D., Professor of Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital, and Henry G. Bugbee, M.D., Instructor in Genito-Urinary Surgery, New York Post-Graduate Medical School and Hospital. New York: Paul B. Hoeber. Cloth, \$3 net. 1911.

This book meets excellently the demands of the beginner for a moderate-sized, well-expressed manual on cystoscopy. The reader

is made acquainted with the history and development of this extremely valuable aid in bladder diagnostics. The technic of cystoscopy is told simply and without any garnishings, thus making it extremely easy for the beginner to comprehend the various procedures necessary to intelligently comprehend what he is doing and why. The volume is profusely illustrated, both with colored and plain engravings, which add much to its value and usefulness. These illustrations depict very truthfully normal and pathological pictures as seen through the cystoscope. Though consisting of only 117 pages, the essentials of a good working knowledge is thoroughly set forth, and the book is to be commended.

INEBRIETY. A Clinical Treatise on the Etiology, Symptomatology, Neurosis, Psychosis and Treatment and the Medico-Legal Relations. By T. D. Crothers, M.D., Superintendent Walnut Lodge Hospital, Hartford, Conn.; Editor of the *Journal of Inebriety*; Author of Morphinism and Narcomania, Drug Habits and Their Treatment, etc.; Recording Secretary of the American Medical Society for the Study of Alcohol and Other Narcotics; Member of the American Medical Association, the British Medical Association; Honorary Member of the British Society for the Study of Inebriety, etc. Cincinnati: Harvey Publishing Co. 1911.

This is another of the many publications which have been devoted to the various aspects of drug habits. The author presents the subject in a very scientific manner. Here the reader is informed how to recognize inebriety, its forms, symptomatology and development, as well as a lot of other good, useful information gained by intimate contact with this class of unfortunates. Every aspect of the subject is thoroughly considered, such as the treatment, home and office and institutional, the medico-legal aspect, the diseases and neuroses associated with inebriety. To those interested in this aspect of medicine the book will be found well worth the time of a careful study.

DISEASES OF CHILDREN FOR NURSES. Including Infant Feeding, Therapeutic Measures Employed in Childhood, Treatment for Emergencies, Prophylaxis, Hygiene and Nursing. By Robert S. McCombs, M.D., Assistant Physician to the Dispensary and Instructor of Nurses at the Children's Hospital of Philadelphia. Second edition. Revised. Octavo of 470 pages. Illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$2 net. 1911.

The fact that a second edition of this book has been called for indicates its need and bespeaks well its popularity. There is no doubt that the nursing of children differs in many details from that of adults; therefore, a book on the subject should indeed be wel-

come by the nursing profession. Here is recorded in simple style the peculiarities of children's diseases, nursing in childhood, diseases of the respiratory tract, diseases of the digestive tract, diseases of the circulatory system, nervous diseases, diseases of the urinary tract, artificial feeding, therapeutics, infant feeding, diseases of the eye, ear, skin and glandular system, tuberculosis, weights and measures, medical terminology, etc. The writer has evinced an intimate knowledge of the needs of his readers, and gives in succinct, easily-understood English the essence of what it is necessary for a nurse to know to handle infant diseases intelligently. The illustrations are excellent, the subject-matter all that could be desired in a book of this character, the treatment modern and in accord with present-day notions. It is a distinct addition to nursing literature, and will be found of great help in preparing undergraduate nurses in the rudiments of pediatrics.

A TEXT-BOOK OF SURGICAL ANATOMY. By William Francis Campbell, M.D., Professor of Anatomy at the Long Island College Hospital. Second edition revised. Octavo of 675 pages, with 319 original illustrations. Philadelphia and London: W. B. Saunders Company, 1911.

The application of the facts of anatomy to clinical problems adds interest to these facts and aids the student in his solution of the problems. In this book Campbell has made an attractive combination of anatomy and its application. The text is clear and succinct, and the illustrations well selected and artistic. The press work is excellent.

For some reason the author has seen fit to duplicate certain of his illustrations. The lymphatics of the breast are shown by the same picture in two chapters. The same is true of the schematic illustration of the suspensory ligament of the axilla; of the three bony points of the elbow; the veins at the bend of the elbow, and of the relation of the large and the small intestine in the abdomen.

Figure 162 is a little misleading, because it appears to indicate that Colles' fracture may be reduced with the patient standing. In the text complete anaesthesia is advised for the reduction.

DIAGNOSTIC AND THERAPEUTIC TECHNIC. A Manual of Practical Procedures Employed in Diagnosis and Treatment. By Albert S. Morrow, A.B., M.D.; Adjunct Professor of Surgery in the New York Polyclinic; Attending Surgeon to the Workhouse Hospital, and to the New York City Home for the Aged and Infirm. With 815 illustrations, mostly original. Octavo of 850 pages. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical & Standard Book Co. 1911. Cloth, \$5 net.

Readers will find the above-mentioned book very helpful in a number of instances. It is devoted mostly to the manual methods

of diagnosis, such as how to use the bronchoscope, aspiration of the thorax, Bier's venous anesthesia, vaccination, smear preparation for microscopical examination, method of inoculating culture tubes, spinal or lumbar puncture, exploratory puncture of the liver, inflation of the middle ear, injection of solutions into the Eustachian tube, inflation of the stomach, gavage, catheterization of the male and female bladder, and a number of other procedures essential to the proper practice of medicine. The book is, in fact, a collection of minor technic found scattered throughout the books of the specialties, but here brought under one cover. It is well written, concise, and, as its title implies, devoted entirely to diagnostic technic, and will be found extremely useful to students and general practitioners in supplying them with the exact information as to the proper technic in such procedures as above enumerated.

A TREATISE ON DIAGNOSTIC METHODS OF EXAMINATION. By Prof. Dr. Hermann Sahli, Director of the Medical Clinic, University of Bern. Edited, with additions, by Nathan Bowditch Potter, M.D., Assistant Professor of Clinical Medicine at Columbia University (College of Physicians and Surgeons), New York; Visiting Physician to the New York City Hospital, to the French Hospital and to the Hospital for Ruptured and Crippled. Second edition. Revised. Authorized translation from the fifth revised and enlarged German edition. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$6.50 net; half Morocco, \$8 net. 1911.

That this octavo of 1229 pages and 472 illustrations has met a need is attested by the call for a second American edition, which is about as complete as one could desire. Intelligent treatment depends upon accurate diagnosis. Therefore, too much stress cannot be laid on this branch of medicine. This volume is full of useful diagnostic methods, both clinical and laboratory. It is indeed a diagnostic mine. Practically everything concerned with diagnosis is mentioned in this book. Here is to be found the proper way of examining the skin, remarks on the various forms of respiration, a section on palpation, sphygmography and sphygmometry of the arterial pulse; chapters devoted to percussion, auscultation, palpation and inspection in their multitudinous applicability. Here is also to be found the various methods of examination of the stomach and the stomach contents, of the intestine and feces, of the intestinal functions, of the urine, sputum, blood, mouth, and esophagus, lungs, heart, nervous system and of special organs.

The entire book will be found highly interesting and instructive, well written and illustrated, full of practical methods, and in time of need a friend well worth possessing. The purchaser will not regret its acquisition.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, JUNE, 1911

THE LIVER AND DIABETES.

A HEALTHY individual can utilize 100 grams of cane sugar, so that none makes its appearance in the urine. Therefore, one of the earliest symptoms of clinical diabetes is the inability of the organism to oxidize the normal physiological carbohydrate tolerance. If glycosuria be established after the ingestion of the above amount of sugar, carbohydrate metabolism is below par, and the individual is very liable later to develop a permanent glycosuria. According to McLeod (*The Cleveland Medical Journal*), alimentary glycosuria is therefore a symptom of incipient diabetes, and the practical importance in diagnosing the case in this stage rests in the fact that when such cases are properly dieted the further development of the disease may be prevented. The same authority states that another symptom of incipient diabetes in some cases is obesity. Here the sugar, instead of being oxidized entirely, is to some extent converted into fat.

These statements being true, then, how does the normal individual take care of an excessive carbohydrate diet? It has been observed that during the absorption of sugar from the intestine the blood of the portal vein contains far more than its normal proportion, whilst this is not true of the systemic circulation. The excessive amount of sugar must therefore be removed by the liver. If the liver fails to convert into glycogen the excess, it passes on into the general circulation, and makes its appearance in the urine as a temporary glycosuria. MacLeod is of the opinion that failure of the liver to retain the excess of ingested sugar occurs either as a result of its inability to convert the sugar quickly enough into

glycogen or to retain the glycogen after conversion. The latter seems the most frequent avenue of escape of sugar into the arterial system, for experimental glycosuria may be produced when no sugar is in the alimentary canal by stimulation of certain parts of the nervous system. It is known that conversion of glycogen into sugar in the liver is due to a ferment. When an excessive amount of this ferment, glycogenase, has been secreted, an increased glycogen decomposition occurs. On the other hand, it has been determined that variations in the activity of a ferment is sometimes due to changes in the chemical nature of the solution in which the ferment is acting. There is gradually accumulating a mass of experimental evidence in support of the latter cause as the reason of increased glycogenolysis in diabetes mellitus.

PREPARATION NECESSARY FOR THE PRACTICE OF SURGERY.

THIS is the season of the new graduate in medicine. Within a few weeks he will be very evident. After the commencement—what? Some will decide to immediately enter upon the practice of medicine; others to spend a year or so in a hospital. It is these with which we are mostly concerned, for after such a short period of apprenticeship they are not competent to engage in general surgery. Most internes of only a year's standing fully realize their incompetency to engage in major surgical work, and the others should be discouraged from attempting it. To become proficient in general surgery requires at least five years of apprenticeship. This experience can only be gained under the guidance of surgeons of recognized ability in a large general hospital. The act of cutting does not make a surgeon; it rather, in some instances, shows the very opposite. The time to cut can only be learned after years of patient following and assisting of an expert surgeon. It is this quality which one aspiring to enter the realms of surgery must acquire, and this can only be acquired after years of patient work. It is therefore our advice to those contemplating a surgical career to be willing from the outset to devote themselves for at least five years to perfecting themselves in the intricacies of surgery. If the aspirant does otherwise he will be sorely disappointed when he bids for work.

Medical Items.

DR. A. SAMUELS has removed from 2003 McCulloh street to 1928 Eutaw Place.

DR. JULIUS W. SCHLEIDER of 3314 East Baltimore street is a patient at the State Sanitarium at Sabillasville, Md., suffering from tuberculosis contracted from a scratch received while operating on a woman ill with Banti's disease.

DR. AND MRS. JOHN MACKENZIE will spend August at Narragansett.

THE Maryland General Hospital has been transferred to the Methodist Episcopal Church, which assumes the debt of \$167,000 on the hospital. The relations with the Baltimore Medical College will remain unchanged.

DR. JOSEPH C. BENZINGER has been ill recently, but is now convalescing.

THE University of Maryland will confer the honorary degree of LL.D. upon Christopher Johnston, A.M., M.D., Ph.D., professor of Oriental history and archeology in Johns Hopkins Hospital, and son of the late Christopher Johnston, a professor of surgery in the University of Maryland.

THE roll of the Medical and Chirurgical Faculty of Maryland shows 1059 members, of which number 1021 are active, 18 non-residents and 20 honorary.

DR. CHARLES M. ELLIS of Elkton is a patient in Johns Hopkins Hospital.

DR. CHARLES W. MITCHELL has removed his office and residence to 9 East Chase street, the old William Pinkney Whyte residence.

DR. THOMAS C. BUSSEY of Texas, Md., is reported to be seriously ill from cerebral hemorrhage.

DR. DELANO FITZGERALD is visiting Baltimore after a six months' trip in Egypt.

DR. DUNCAN McCALMAN sustained a fractured clavicle by being thrown from his automobile recently.

DR. MUNRO KERR of the University of Glas-

gow was a recent visitor to Baltimore. He was entertained by Dr. Howard A. Kelly.

MARRIAGES.

FRANCIS WINSLOW JOHNSON, M.D., of Glyndon, Md., to Miss Marion Lawrence Reese, at Baltimore, April 24, 1911.

DEATHS.

JOHN RICHARD THOMAS REEVES, M.D., University of Maryland, '58, died at his home in Chaptico, Md., April 14, 1911, aged 79.

FREDERICK B. BAKER, M.D., University of Maryland, '88, died at his home in East Norwalk, Conn., April 18, 1911, of cerebral hemorrhage, aged 55 years.

GEORGE W. HAFEL, M.D., University of Maryland, '08, died of self-inflicted pistol wounds while temporarily deranged from over-study in Baltimore, May 3, 1911, aged 32 years.

REUBEN A. WALL, University of Maryland, '04, died at his home in Catonsville, May 4, 1911, aged 34 years.

CAMERON PIGGOT, M.D., University of Maryland, '82, died at his home in Sewanee, Tenn., April 30, aged 55 years.

RICHARD SAPPINGTON, M.D., University of Maryland, '51, died at his home in Waverly, Md., May 14, 1911, aged 84 years.

AUGUSTUS ALEXANDER CLEWELL, M.D., University of Louisville, '71, died at his home in Baltimore, April 28, 1911, of neuralgia of the heart, aged 70 years.

NORMAN F. HILL, M.D., University of Maryland, '81, of Baltimore, Md., died at the Mercy Hospital, Baltimore, May 12, 1911, following an operation for gallstones, aged 61 years.

ALEXANDER DAVIS, M.D., Baltimore Medical College, '92, died at his home in West, Texas, October 28, 1910, from endocarditis, aged 72 years.

ALFRED H. CWINNESS, M.D., Baltimore University School of Medicine, '01, died at his home in High Falls, N. C., April 29, from septicemia, aged 53 years.

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COMPLETE TRANSVERSE DESTRUCTION OF THE SPINAL CORD FROM PISTOL WOUND, WITHOUT PENETRA- TION OF THE SPINAL CANAL,

WITH A CONSIDERATION OF CONCUSSION AS AN ETIOLOGIC
FACTOR IN THE PRODUCTION OF THIS LESION, AND
OF THE QUESTION OF SUTURING THE CORD
WHEN IT IS COMPLETELY DIVIDED.*

By RANDOLPH WINSLOW, M.D., LL.D.,

Baltimore.

Professor of Surgery in the University of Maryland.

THE following cases of injury to the spinal cord from pistol shot, without penetration of the spinal canal, appear to me to be of sufficient interest to justify their recital:

CASE I.—On October 9, 1910, E. F., white male, aged 24 years, was shot with a pistol in the left side, the bullet entering between the seventh and eighth ribs, just posterior to the mid-axillary line. He fell immediately to the ground, and was paralyzed from near the umbilicus downwards, both as regards sensation and motion. He did not lose consciousness, but complained of severe pain in the upper abdomen and in the chest. He was brought to the University Hospital a short time after the injury, and the following facts were elicited by Prof. Irving J. Spear: The patient shows complete muscular and sensory paralysis below a line extending around the body one and one-half inches below the umbilicus in the median line in front and curving upward and backward along the upper border of the twelfth rib to the spine. An area of hyperesthesia exists, encircling the body three inches in diameter just above the line of paralysis. There is persistent priapism; cremasteric and slight plantar reflexes are present, but the patellar and tendo-Achilles reflexes are absent. The paralysis is flaccid in type. There is inability to void urine, and catheterization is necessary; the bowels do

*Read before the Southern Surgical and Gynecological Association at Nashville, Tenn., December 15, 1910.

not move except with enemata. Ankleklonus and Kernig's and Babinski's signs are negative. Neurological diagnosis: Complete transverse destruction of the cord at the ninth dorsal segment, opposite the seventh or eighth dorsal vertebra; and it is proper to say that Professor Spear advised that no operation be performed.

Irregular exacerbations of temperature promptly supervened, but his general condition remained good. An X-ray picture showed the bullet in or about the body of the eighth dorsal vertebra. Believing there was a complete division of the spinal cord, and having in memory the cases of Stewart and Fowler, I determined to explore the spinal canal and suture the cord if it was found to be justi-



X-ray picture showing bullet in or about the body of the eighth dorsal vertebra.

fiable. Accordingly, three days later I did a laminectomy, removing the laminae of the seventh, eighth, ninth and tenth dorsal vertebrae. There was no blood in the canal, and the dura was uninjured, nor was the bullet discovered. The dura was widely opened, permitting the escape of a large quantity of cerebro-spinal fluid. The cord was not severed, nor did it appear to be altered, but subsequently some grumous material escaped from the cord. As the cord was not divided, or its continuity apparently destroyed, there was noth-

ing to suture, and the wound was closed. The patient was not improved, but neither was he made worse by the exploration, as his wound healed per priman. He continued, however, to have fever, became emaciated, and bedsores formed, but he is still living at this writing.

CASE II.—On May 2, 1884, the following case of gunshot of the spine was admitted to University Hospital under my care:

Martha Gordon, colored, aged 18 years, was shot a short time previously by a woman. The bullet, from a Colt's revolver held at short range whilst the patient was sitting, entered on the left side of the neck about the middle of the belly of the sterno-cleido-mas-



Case II.—Bullet lodged in body of second dorsal vertebra.



Case II.—Tip of bullet showing in spinal canal.

toid muscle, and passed downward, inward and backward. The victim fell forward with paraplegia, and also with paralysis of the left arm, dilatation of the left pupil, alteration of the pulse, and coldness of the skin. Subsequently sensation and motion were partially restored to the left arm. The right arm was unaffected. Complete anesthesia extended to the first rib on the left, and only to the third rib on the right side. There was retention of both urine and feces, requiring the use of the catheter for the one and enemata for the other. Her mind was clear. There was some pain in the neck. The diaphragm was unaffected, and some action of the serratus magnus could be elicited. She subsequently complained of a burning sensation below the waist, and of a band around the body, as well as of pain in the spine. Bedsores promptly formed. The reflexes were abolished, and the muscles of the legs responded vigor-

ously to the faradic current. The highest temperature was on the ninth day, when it reached $104\frac{1}{2}^{\circ}$. The lowest temperature was recorded on the fourteenth day, when it fell to 98° , soon rising to $104\frac{1}{2}^{\circ}$.

Diagnosis: Pistol wound of the second dorsal vertebra, crushing or otherwise injuring the spinal cord.

Death occurred on the twenty-first day following the injury.

Autopsy by the late Professor Michael: The bullet cut the posterior margin of the left sterno-cleido-mastoid muscle, passed behind the brachial plexus, cutting a small nerve, probably the last branch of the cervical plexus, then passed between the anterior and middle scaleni muscles, broke the tip of the transverse process of the seventh cervical vertebra, penetrated the body of the second dorsal vertebra, cutting also a piece from the first rib, and impinged on, but did not penetrate, the spinal canal, also fracturing slightly the pedicle of the second dorsal vertebra. There was some bloody serum in the canal, and spinal meningitis was present. The cord was not penetrated or compressed, but was disintegrated, and much reduced in size opposite the location of the bullet.

The above reported cases appear to me to be injuries due to concussion of the spinal cord, though it is difficult to understand how a complete transverse destruction of the cord can occur without a direct impact: that such does occur occasionally is, however, well attested by competent authorities. During the Civil War a number of such examples were observed. My late colleague, Prof. Julian J. Chisolm,¹ in his *Manual of Military Surgery*, written for the use of the surgeons of the Confederate Army, says: "A concussion produced by the explosion of a shell in the immediate vicinity of the back is an injury not infrequently met with in field practice, having as its most conspicuous symptoms pain in the vicinity of the part, accompanied by impairment of mobility and sensation of the lower limbs, amounting at times to paralysis. As the result of such a concussion blood may be effused within the sheath of the cord, causing paralysis from pressure. A chronic and eventually fatal myelitis may supervene upon this extravasation."

Surgeon-General Robert M. O'Rielly,² U. S. A., also makes about the same statement. He says: "Concussion, unless it is severe, is usually more or less rapidly recovered from. Concussion of the spinal cord by gunshot is due to the shock of the impact of the missile or the molecular vibrations set up by the passage of a missile at high velocity near the cord. The effect of such injury may be transitory pain and loss of muscular control, or complete paralysis and anesthesia, with persistent pain and general neurasthenic symptoms. Destruction of the cord may arise as the result of the transmission of energy from a missile at high velocity passing near the cord. It has occurred in cases where the bullet barely grazed the membranes of the cord. The cord is reduced for some extent to a custard-like material, and is as completely and permanently destroyed as though it had been severed by a missile."

Surgeon-Colonel W. F. Stevenson³ of the English Army also

says: "Concussion of the cord without fracture of the spinal column may be produced by shell fragments or by small-arm projectiles. In these cases paralysis below the seat of injury may be absolute; but if secondary changes do not take place in the cord and hemorrhage within the spinal canal does not occur, recovery may be rapid and complete." He cites the case of an officer wounded in Afghanistan which is of interest in this connection. "The bullet traversed the muscles over the lumbar region from side to side, not implicating the bone in the passage: absolute paralysis of both lower extremities occurred immediately on receipt of injury, and continued for about a week, when it began to diminish and soon completely disappeared."

I will cite two other cases reported by men whose names are a sufficient guarantee of the correctness of their observations, made during the heat of the Civil War. Dr. Robert F. Weir⁴ records the case of a man wounded on July 9, 1864. The bullet entered the anterior part of the neck to the left of the thyroid cartilage, and passed between the roots of the seventh cervical and first dorsal vertebrae. By August 4 the wounds of entrance and exit had healed, but large bedsores had formed, and there was entire paraplegia, involuntary discharges of urine and feces, and diarrhoea, and he died on August 12. At autopsy some slight bloody effusion was found in the canal, but no direct injury to the cord.

The other case was observed and recorded by Dr. Wm. W. Keen.⁵ A man was shot through the upper lip, all of the teeth on the same side of the upper jaw were destroyed and the bullet penetrated the posterior wall of the pharynx and lodged in the body of the third cervical vertebra. Paralysis of all four limbs supervened, from which he rapidly recovered. Nearly all of the body of the third cervical vertebra came away, but the man recovered, though with some disability.

Dr. Francis T. Stewart⁶ of Philadelphia also records two cases occurring in civil practice of gunshot wound close to but not involving the dorsal cord, in which there were typical signs of a total transverse lesion, but in which a post-mortem examination revealed no anatomical changes in the cord.

The treatment of complete or apparently complete division of the spinal cord is still a mooted question. Physiologists declare that it is impossible to have a regeneration of the cord if it has once been divided, but practically there may be a doubt of the correctness of this statement. Improvement certainly does occur to some extent in certain cases that are treated expectantly. Perhaps some fibers of the cord have escaped destruction, or there may have been a species of collateral nervous anastomosis between the nerve fibers above the injury with those below it.

In the case of gunshot wounds of the spinal cord it certainly appears to me to be justifiable to explore the spinal canal, remove foreign bodies and suture the divided ends of the cord together. We must be careful, however, not to destroy fibers that may be still uninjured. In one of the cases reported above an exploration of the

spinal canal was made, but there was no hiatus in the cord, though apparently a hematomyelia had occurred, as a grumous material escaped from the cord itself. I did not think it justifiable to resect and suture the cord in this case. As far as I am aware, the severed spinal cord has been sutured but three times.

On January 21, 1911, Dr. Francis T. Stewart⁷ of Philadelphia seems to have performed the first suturing of the cord in a human being. This was in a case of gunshot of the dorsal spine. Three hours after the injury an exploratory laminectomy was done, and the cord was found to be completely divided, with the ends separated three-quarters of an inch from each other, and the bullet and some bone fragments lying in the spinal canal between the severed end of the cord. The laminæ of the seventh dorsal vertebra were fractured. The edges of the cord were freshened and the ends were approximated with three chromicised catgut sutures. The patient, who had been paraplegic, with the loss of reflexes below the seat of injury, soon exhibited marked improvement, and 16 months later was able to execute various movements of the toes and legs, could stand with one hand resting on the back of a chair, and could get from her bed to a chair unaided by a sliding movement. The bowels were under control, and the urine so when she was awake, though some incontinence occasionally occurred during sleep. The sense of touch, pain, temperature and position was preserved over the previously paralyzed area.

The next case chronologically, as far as I am aware, is that of Dr. George R. Fowler,⁸ who did a laminectomy for gunshot of the eleventh dorsal vertebra 11 days after injury, and found the cord entirely severed, with the bullet lying between the divided ends. The bullet and clots were removed and the cord sutured with three chromicised catgut sutures, which also included the dura, and several others in the dura only. Two years subsequently voluntary motion was practically lost in the lower limbs, but there is some sensation that indicates to him when his bowels or bladder are about to be emptied, and enables him to keep from soiling himself if a vessel is promptly given to him. Bedsores that were present healed promptly, and but slight trophic changes occurred.

Dr. Wm. L. Estes⁹ of Bethlehem, Pa., also sutured a completely divided cord, with some restoration of function, but I have not seen a report of the case.

To offset the improvement noted in these cases after suture of the cord is the case of pistol shot of the cervical spine observed by Pilcher¹⁰ in 1901.

A boy, aged 11 years, was shot with a .22 caliber rifle bullet, the missile entering just below the episternal notch, ranged upward and backward, and, escaping the important structures in the front of the neck, apparently passed through the spine between the fifth and sixth cervical vertebrae. The boy was paralyzed from the clavicles downward, both as to motion and sensation, and he had priapism, involuntary urination and defecation, and the usual signs of a transverse lesion. He gradually improved, regained control

of the bladder and bowels, and began to have voluntary muscular movements in his limbs. A laminectomy was done after a month's interval, but no injury to the cord was detected. He subsequently regained much of his muscular control, as well as of sensation. An X-ray picture taken one year after the injury showed "the bullet embedded in the base of the spinous process of the sixth cervical vertebra." Dr. Pilcher says the ball "must have perforated the cord and lodged in the spine of the sixth cervical vertebra behind."

I have briefly transcribed this case, which, if it has been correctly interpreted, shows that gunshot lesions of the cord are neither invariably fatal nor absolutely beyond the possibility of marked restoration of function.

I am not convinced, however, that this was not a case of concussion, rather than a perforation of the cord.

In conclusion, I beg to submit the following propositions:

1. That serious and even fatal lesions of the spinal cord may be produced by concussion without direct impact.
2. That in gunshot injuries with a probability of complete severance of the cord, laminectomy should be performed, foreign bodies and clots removed, bleeding arrested, and if the cord has been divided the separated ends should be approximated with sutures.
3. Care should be exercised not to destroy any nervous fibers or tracts that may still be intact.

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²Keen's Surgery. 1908. IV, 1006.

³Wounds in War. Stevenson. 1907, p. 287.

⁴Medical and Surgical History of the War of the Rebellion. Surgical volume, part I, p. 431.

⁵Ibid. Surgical volume, part I, p. 430.

⁶Stewart's Manual of Surgery. 1907, p. 419.

⁷Harte and Stewart. *Philadelphia Med. Journ.*, June 7, 1902.

⁸Annals of Surgery. Vol. 42, p. 507.

⁹Dacosta's Modern Surgery. 1910, p. 876.

¹⁰Annals of Surgery. Vol. 38, p. 812.

MERCK'S MANUAL OF THE MATERIA MEDICA. Fourth edition. 493 pages. New York: Merck & Company. 45 Park place. 10 cts. 1911.

Merck's manual, as heretofore, will be found the same reliable reference pocket-book for the physician and surgeon. It contains a comprehensive list of chemicals and drugs, with their synonyms, solubilities, physiological effects, therapeutic uses, doses, incompatibles, antidotes, etc.; a table of therapeutic indications, with interspersed paragraphs on bedside diagnosis and a collection of prescription formulas, beginning under the indication "Abortion" and ending with "Yellow Fever," a classification of medicaments and miscellany, comprising poisoning and its treatment, and an extensive dose table, a chapter on urinalysis and various tables, etc.

A REPORT CONCERNING THE TREATMENT OF THE BALTIMORE DRINKING WATER WITH HYPOCHLORITE OF CALCIUM.

By William Royal Stokes, M.D.

DR. JAMES BOSLEY,
Commissioner of Health.

Dear Sir—In compliance with your instructions to make a special report concerning the treatment of the drinking water by means of hypochlorite of calcium in order to destroy the intestinal bacteria and reduce the number of water-borne intestinal diseases, I hereby submit the following preliminary report. I have written letters to a number of the Health Commissioners of different cities in which this method is in use, and although I have not received answers to all of these communications, yet I thought it best at this time to make a brief, preliminary report from the data which I have been able to secure, and to supplement this by a further report if you or any of the other city officials may desire additional data.

NECESSITY FOR THE TREATMENT OF THE DRINKING WATER BY THE HYPOCHLORITE METHOD.

In order to determine whether it is necessary to treat the drinking water of Baltimore with hypochlorite of calcium it should be first determined whether the drinking water bears any relation to the water-borne diseases, and especially to typhoid fever. A great deal of valuable evidence can be secured by an epidemiological study of typhoid fever in Baltimore, and such a study has already been made and reported to you by the Assistant Commissioner of Health, Dr. C. Hampson Jones, in the annual report for 1907. Dr. Jones divided the possible sources of typhoid fever in Baltimore into ten causes, which are as follows:

1. Bathing in polluted water.
2. Privy wells.
3. Flies.
4. Importation.
5. Contact.
6. Hydrants in yards.
7. Water wells.
8. Raw foods.
9. Milk.
10. Drinking water.

Causes Nos. 1, 6 and 7 can be dismissed as simply affecting small groups of the community, and the percentage of cases from these causes is negligible. It is now recognized that the imported cases are about counter-balanced by the cases of typhoid which

develop in the city and later leave for other places. The epidemiological studies in Washington show that about 15 per cent. of typhoid cases are caused by contact, and that about 10 per cent. are caused by milk. This leaves the privy wells, manured vegetables treated by cess-pit contents, flies, and drinking water as causing about 75 per cent. of the cases, and as the great prevalence of typhoid occurs during the fly season, it is impossible to separate these causes. It may be stated, however, that the privy well is not considered as dangerous a menace in connection with the distribution of typhoid fever by flies as the surface privy. The danger from the overflowing privy is only occasional.

Even if we eliminate 25 per cent. more of the cases of typhoid, it leaves a margin of 50 per cent. of cases unaccounted for, unless we accept the drinking water as a cause for these cases.

INFLUENCE OF THE PURIFICATION OF WATER UPON TYPHOID MORTALITY IN OTHER STATES.

The influence of methods of purification, such as filtration, has had such a striking effect in reducing the typhoid mortality in which the method has been applied to surface rivers that much information can be gained by comparing the reduction in the typhoid mortality after the installation of slow sand filters in these various cities, and I would therefore respectfully call your attention to the results which have been mainly favorable from the use of this method.

RESULTS IN CINCINNATI.

The following statistics from Cincinnati show the great reduction in typhoid fever effected by filtering the Ohio River water. In 1905, 1906 and 1907, respectively, there were 217, 561 and 360 cases of typhoid fever per 100,000 of population in this city, and the results for 1908, 1909 and 1910, respectively, were 67, 62 and 50 cases, with 19, 13 and 5.7 deaths per 100,000 of population. Comparing the results for the three years before and the three years after filtration, it shows an elimination of 85 per cent. of the typhoid fever and of 79 per cent. of deaths from this disease.

Whipple, in his book on typhoid fever, also mentions a number of other cases in which the introduction of a filtration plant has greatly reduced the typhoid mortality. Zurich, Switzerland, before the installation of a proper filtration system, had a typhoid mortality varying from 35 to 175 per 100,000, but since the installation of the new filters the typhoid mortality has only ranged between 11 and 7 per 100,000. Hamburg, Lawrence, Albany, Binghamton and Paterson, N. J., also show remarkable drops in the typhoid mortality after the installation of filters, and these facts are well illustrated in the charts beginning on page 263, which serves as Exhibit A, and are shown as Figs. 1, 2, 3 and 4.

Even in Washington, where the installation of a filtraton plant did not effect an immediate reduction in the typhoid fever cases, yet during the summer season of 1907 and 1908 there was a reduc-

tion of about 200 cases as compared to the similar season in 1906, which was the first year after the installation of the filter. It will be seen, therefore, that the filtration plant eliminates some of the water-borne typhoid even in this city.

TYPHOID MORTALITY IN BALTIMORE.

When we compare these great diminutions in the typhoid cases and deaths with the figures in Baltimore we find that the rate in Baltimore remains about the same, being a trifle above the average typhoid rate per 100,000 of population for the entire country.

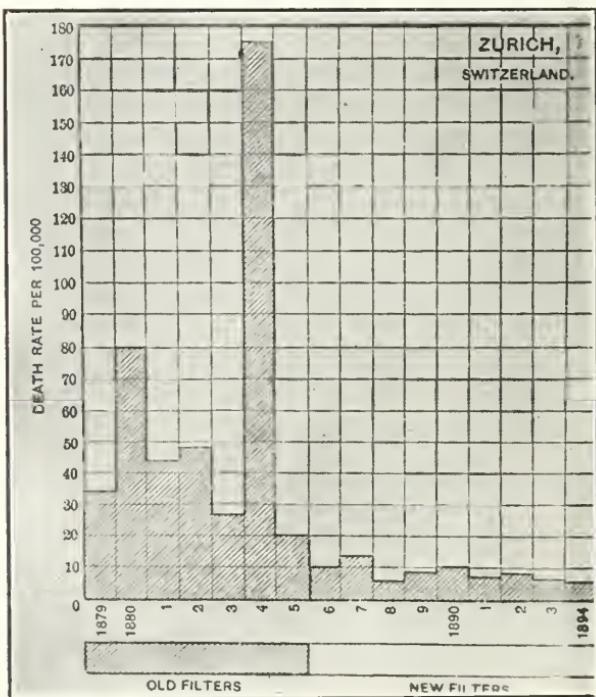


FIG. 2.

Figure No. 2 shows the effect of a proper system of filtration upon the typhoid death rate in Zurich Switzerland. (Whipple's "Typhoid Fever.")

Adding the mortality from malaria mentioned in the report by Dr. Jones to the typhoid mortality for 1904, 1905 and 1906, it would seem that the average mortality is about 40 per 100,000 of population.

The conservative estimate of Dr. Jones in his report for 1907 shows that there are from 2000 to 2500 cases yearly in Baltimore. In taking the former figure of 2000 as a basis for our financial estimate, we can find some interesting figures. A very conservative financial estimate shows that the average financial loss to the community for every death from typhoid fever is about \$5000, and the average cost for the nursing of such cases, as well as the

nine other cases out of ten which recover, is about \$1000. This makes the average of about \$6000 for every death occurring in the community; so that, figuring on 200 deaths yearly from typhoid, we have a financial loss to Baltimore of \$1,200,000 yearly. If 50 per cent. of these cases could be saved by proper methods of water purification, it would save the community \$600,000 yearly.

BACTERIOLOGICAL EVIDENCE.

A summary of the bacteriological examination of the drinking water since 1896 shows that in 834 tests the colon bacillus was present in 73 per cent. of examinations, usually in such small quantities as one cubic centimeter, or 15 drops. When investigations are made on the water shed itself the presence of intestinal pollution has been demonstrated in much smaller quantities. In 14 specimens collected by Inspector Kelly from the Gunpowder watershed the colon bacillus has been found in one-tenth of a cubic centimeter eight times and in the very small quantity of one-one-hundredth of a cubic centimeter four times. During the winter months it is not found in such small quantities, and these results would seem to indicate an increasing pollution of the water supply during the spring months, which usually precede the summer and fall typhoid, which occurs with unfailing regularity each year.

Intestinal pollution can also be demonstrated in the reservoirs, and the monthly examination for May shows that Lake Clifton, Druid Lake, Lake Montebello, Guilford Reservoir and the Western High-Service Reservoir also contain the colon bacillus in either 1 or 10 cubic centimeters of water. It is seen that there is an increase of intestinal pollution as compared to the month of March, since in six specimens examined in March the colon bacillus was not found in any of the specimens, while in 18 examinations made in April from the various wards of the city the colon bacillus was found in four examinations, or 22 per cent. In 11 examinations made so far in May the colon bacillus was found three times either in 1 or 10 cubic centimeters, a percentage of 27. We have not as yet found the colon bacillus in smaller quantities of tap water, such as one-tenth and one-one-hundredth cubic centimeter, but this can be accounted for by the sedimentation in the various reservoirs.

In order to show that this pollution on the watershed has been a condition of long standing, I would respectfully refer you to the report of the bacteriologist for 1902, page 114. The tables beginning on this page show the presence of the colon bacillus in small quantities of water in many of the streams emptying into the Gunpowder River and the Jones Falls and Lake Roland supply, and the bacteria present vary from about 1000 per cubic centimeter to 250,000 per cubic centimeter in these streams, whereas the Gunpowder River itself shows counts as high as 50,000 per cubic centimeter.

During the year 1910, 255 specimens of water were examined from the various reservoirs, and the colon bacillus was found

present either in 1 or 10 cubic centimeters in 229 specimens, a percentage of 89. Bacterial counts varied from 0 to 3000 per cubic centimeter.

VARIOUS OTHER TYPES OF INTESTINAL BACTERIA PRESENT IN THE SUPPLY.

Various other types of intestinal bacteria have been obtained from the water supply by making cultures from the laboratory tap. These include such organisms as the *Bacillus paratyphosus*, the *Bacillus proteus*, the *Bacillus pyocyanous*, the *Bacillus cloacae*, the *Bacillus gasoformans* and the *Bacillus alkaligenes*. All of these indicate intestinal pollution. The sewage streptococcus has also been isolated from the supply. Dr. W. W. Ford, in an article in the *Johns Hopkins Hospital Bulletin* for February, 1911, also reports the presence of the various types of intestinal bacteria in cultures taken from the Gunpowder River and several branches emptying into this river around Cockeysville.

As a final proof of the presence of disease-producing bacteria in the water supply, the typhoid bacillus itself was found in Lake Roland and in Towson Run, a stream conveying the sewage of Towson into Lake Roland.

From what has gone before, it may be seen that the many bacteriological examinations which have been made of the drinking water of Baltimore indicate a continuous pollution by the intestinal bacteria, and as the typhoid bacillus itself was found in a portion of the supply, this fact adds additional emphasis to the need of purifying the drinking water.

STERILIZATION OF WATER BY MEANS OF HYPOCHLORITES.

A number of experiments have shown that the addition of hypochlorite of calcium or sodium to drinking water will cause a marked reduction in the number of intestinal and ordinary water bacteria, and the following instances are cited as experiments proving this point:

Thresh, in *Public Health* for 1909-10, page 350, describes a number of interesting results obtained by the use of hypochlorite of calcium. At Nashville, Tenn., the raw river water was reduced from 6100 per cubic centimeter to 110 per cubic centimeter. Twenty-five tests from the raw water showed the colon bacillus in one cubic centimeter in all of the tests, but 25 similar tests were negative after the water had been treated with one grain of calcium hypochlorite per gallon. Minneapolis, with one-half of a grain of hypochlorite per gallon, rid the water of colon bacilli, and Montreal, by treating the St. Lawrence River with a sufficient amount to add one part of chlorine to two and one-half million parts of water, reduced the bacterial contents from 1600 per cubic centimeter to from 2 to 46. At Harrisburg, Pa., the Susquehanna River was chlorinated with one grain per gallon. The raw water contained the colon bacillus in 59 per cent. of examinations, but it was not detected in 307 samples of treated water. (See Exhibit B.)

Woodhead, in the *Journal of the Royal Sanitary Institute*, 1910,

page 281, describes the treatment of the water at Cambridge by means of the hypochlorite method. The apparatus used by Dr. Woodhead consisted of a vertical steel cylinder holding 7000 gallons. "The water entered by a rising main leading into the dome of the cylinder and leaving at the base. The hypochlorite of calcium is pumped in measured quantities into the water as it travels in the rising main at the rate of 7000 gallons per hour, so that, theoretically, it should remain in the cylinder for one hour." This was not accomplished in practice, however, until the insertion of baffle plates made the flow more equable. "The water as it leaves the cylinder, where it has been exposed to the action of the chlorine, flows into a galvanized-iron tank and over a slotted weir so graduated that the amount of water flowing in a given time may be easily measured." The untreated water contained comparatively large numbers of colon bacilli, but where one part of chlorine was added to two million parts of water, or even four million parts of water, no colon bacilli were found in even such large quantities as 500 c. c. of water. Later they were able to get similar negative results when one part of chlorine was added to from seven to eight million parts of water. He also states that it was not necessary to neutralize the chlorine in the effluent with bisulphite of soda. The treatment also caused a reduction of about 97 per cent. of the total bacterial content. On page 294 of the *Journal* there is an interesting table showing the bacterial reduction by means of this method, and this is presented below in detail:

| Place. | Date of commencement. | Million gallons treated daily. | Parts per million av. Cl. added. | Per cent. reduction of bacteria. | B. coli in treated water. |
|-----------------------|-----------------------|--------------------------------|----------------------------------|----------------------------------|---------------------------|
| Harrisburg, Pa..... | July, 1909. | ... | 0.39 | 99.7 | ..... |
| Hartford, Conn..... | ..... | ..... | 1.0 | Over 99.5 | Not found. |
| Jersey City, N. J.... | Jan., 1909. | 40 | 0.2 | 99.5 | Only one in 455 tests. |
| Minneapolis, Minn... | Feb., 1910. | 20 | (1.1 at first) to be reduced. | ..... | ..... |
| Montreal, Canada... | Jan., 1910. | 40 | 0.35 | ..... | ..... |
| Nashville, Tenn..... | Aug., 1909. | 14 | 0.45 | 98.4 | No coli. |
| Quincy, Ill..... | April, 1909. | ..... | 1.1 to 0.45 | 99.7 to 98.3 | ..... |
| Toronto, Canada..... | March, 1910. | 35 | 0.11 | 77 | Absent in 16 tests. |

Mason, in the *Chemical News*, London, 1909, page 321 (Exhibit C), gives an interesting table showing the bacterial reduction by various quantities of "bleaching powder," showing that by five-tenths part per million the bacteria in the water supply of Jersey City were reduced from 102,000 per cubic centimeter to 400 per cubic centimeter.

Westbrook and his assistants, in the *Journal of the American Public Health Association* for February, 1911, page 120, describe some interesting experiments in a plant which treated the raw Mississippi River water. Water was taken from the river by two pumping stations, and the hypochlorite was added before the water entered the pumps so as to insure thorough mixing. Chemical and bacteriological analyses were made of the water 20 minutes after treatment as it entered the reservoir at the inlet, two hours later as it left the reservoir or outlet, and as it reached the tap of the laboratory 36 hours later. They were unable to establish any

ratio between the albuminoid ammonia, the bacterial count, the temperature of the water, or any other chemical ingredient. During cold weather the action of the hypochlorite extended to the time that the water reached the pipes, but in warm weather the action was exhausted before leaving the reservoir. The reduction of the various chemical and bacteriological constituents with the parts per million of chlorine used are seen on page 121 in the table as Exhibit D.

The city of Omaha has also been treating the raw water from the Missouri River by means of sedimentation in settling tanks followed by the addition of hypochlorite of calcium. The sedimentation produces a removal of about 95 per cent. of the suspended silt, and an average reduction of 97 per cent. of the bacteria in the settled water. This water after sedimentation passes into another basin, where it has been treated with from 0.3 parts per million of available chlorine during the summer months, but has been

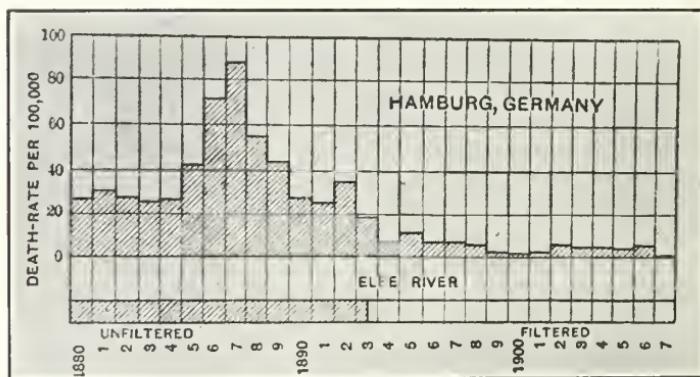


FIG. 1.

Figure No. 1 shows the effects of the filtration of the water on the death rate at Hamburg, Germany, and the chart is copied from Whipple's "Typhoid Fever."

raised as high as 0.45 parts per million during some of the winter months. This treatment effected a reduction of 93 per cent. of the bacteria in this water after sedimentation, and there was a total average production of 99.85 per cent. as compared to the raw water. The colon bacillus was only found present four times in 216 tests, and two of these positive results were accounted for by shutting off the feed for two days.

The following table, which has been compiled by Mr. Bosley Thomas, director of the bacteriological and chemical laboratory of the Water Department, shows the number of gallons treated per day, the cost per day for chemicals and labor, the cost per million gallons treated, the number of pounds of hypochlorite of calcium used per million gallons, the cost of installing the plant, the amount of available chlorine used and the bacterial reduction in several of the large cities that have adopted this method:

| City. | No. gallons treated per day. | Cost per day for chemicals and labor. | Cost per million gallons treated. | No. lbs. of hypochlorite used per million gallons. | Cost of installing chlorine plant. | Amt. of chlorine used. | Bacterial reduction. |
|------------------|------------------------------|---------------------------------------|-----------------------------------|----------------------------------------------------|------------------------------------|------------------------|----------------------|
| Milwaukee..... | 50,000,000 | \$10.20 | \$0.20 | 6 pounds. | \$225 | 0.3 | 99% |
| Toronto..... | 35,000,000 | ..... | .52 | ..... | ..... | 0.33 | 77% |
| Minneapolis..... | 20,000,000 | ..... | ..... | 17 | ..... | 0.5 | .... |
| Montreal..... | 40,000,000 | ..... | ..... | 17 pounds. | ..... | 0.5 | 99.5% |

PRACTICAL METHODS OF PURIFICATION.

In addition to the methods which have already been mentioned in discussing the influence upon the bacterial reduction in the water, I would respectfully call your attention to the description of the hypochlorite plant at Minneapolis, described in the *Engineering Record*, April 15, 1911, on page 416. The plant treats from 20,000,000 to 30,000,000 gallons per 24 hours, applying the chemical to the raw Mississippi River water. Quoting the description, "The permanently-installed plant consists of reinforced-concrete tanks, weir boxes and discharging funnels connected with galvanized-iron pipe. The present use of hypochlorite of lime was an emergency brought about by an epidemic of typhoid fever caused by the infection of a water supply from the cities on the river above where that disease was prevalent. By introducing the chemical at the pump wells a thorough mixing is obtained, and a long contact period for reaction is provided by the passing of water through the pumps of the reservoir three miles away, whence it flows by gravity to the city. The permanent tanks and measuring devices are built of concrete, having walls 5½ inches thick.

"Suitable charges of hypochlorite are introduced into the 450-gallon mixing tank, and dissolved by revolving racks on a vertical shaft. Baffles on the sides of the tank prevent the water from swirling in a mass. The tank has a copper cover with a 10-inch opening to receive the specially-designed pail with a collapsible bottom. The fumes rising from the dumping of the bucket and the charging solution escape through a 6-inch vent in the cover, passing up through the roof. The solution is run from a mixer alternately to two 4500-feed tanks. Each tank is then tested for available chlorine, and when the proper strength is obtained by dilution the solution is ready for use. Each tank is provided with a float rising and falling in a 12-inch clay pipe, which serves as a guide. These floats communicate with recording gauges in the laboratory which make a record of the service and check the work of the attendants. The gauging of the float is effected by passing the solution through two weir boxes, each supplying the pump well of a 15,000,000-gallon pump. The boxes are provided with adjustable weirs, which are reversely calibrated by the fall of the liquid in the solution tank per unit of time.

"The head of the weir is kept constant by the overflow from the box, and the level is obtained by the operation of the valves controlling the solution. These valves are adjusted by an attendant. The discharging sheet for one of the weirs is divided by a knife-like partition between the funnel."

This article also describes a hood for getting rid of the fumes in the casks of hypochlorite, and gives an interesting table showing the bacterial reduction, the amount of hypochlorite and the entire elimination of the intestinal bacteria from the water.

Elms, in the *Engineering Record* for April 8, 1911, also shows that the hypochlorite treatment will greatly reduce the diatoms and algae in the water, and the article contained an interesting table on page 388, which is shown as Exhibit F.

Quoting from the report of Improved Water Supply for the City of Montreal, July 2, 1910 (Exhibit G), "At the present time

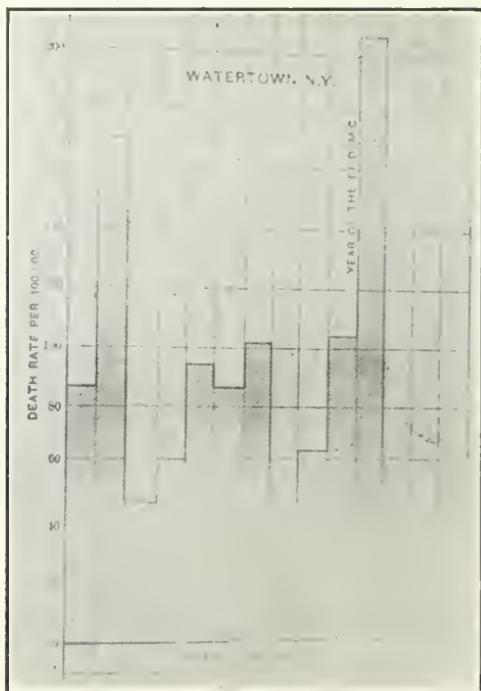


FIG. 3.

Figure No. 3 shows the remarkable drop in the typhoid death rate after the use of filters at Watertown, N. Y. (Whipple's "Typhoid Fever.")

it is safe to say that this method of treatment is in use at 75 or 100 places in America. Among these may be mentioned besides Montreal, Toronto, Milwaukee, Minneapolis, Omaha, Council Bluffs, Indianapolis, Nashville, Cincinnati, Columbus, Pittsburg, Harrisburg, Philadelphia and quite a number of other cities. To these last can be added Jersey City, Little Falls, Paterson, Passaic, Montclair and many other smaller cities in New Jersey, together with Hartford, Newport and Johnstown, Pa."

In addition to the various amounts used mentioned in the report, I may also add that in a communication from the authorities

at Montreal, I find that they use one-half part of chlorine per million, being approximately 17 pounds of bleaching powder per million gallons of water. They have had no deleterious effects on pipes and boilers, and report that there has been a reduction of the number of typhoid cases in the city since the inception of the treatment. The bacteriologist of the Milwaukee Board of Health reports that they use 6 pounds of hypo per million gallons. The cost is \$1.60 per hundred for hypo. He reports a reduction of from 3000 to 200 bacteria per cubic centimeters before treatment to 15 to 60 cubic centimeters after treatment. He reports

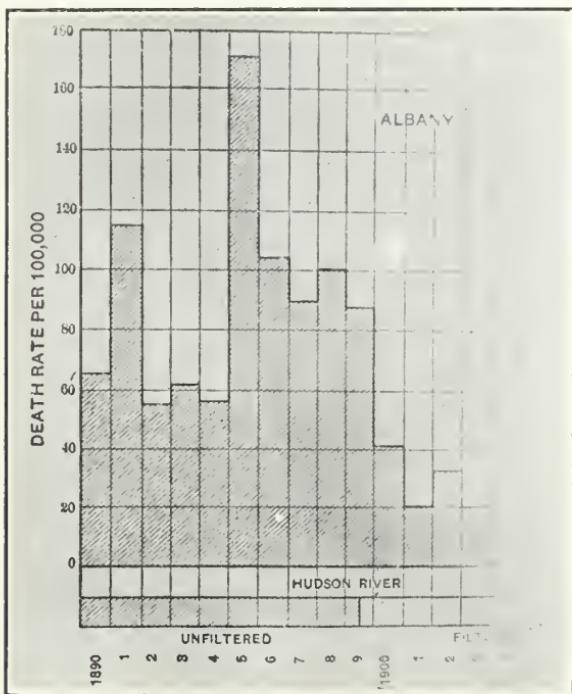


FIG. 4.

Figure No. 4 shows the influence of filtration upon the death rate at Albany, N. Y. (Whipple's "Typhoid Fever.")

complaints from the disagreeable taste of the water, which he thinks was due to the cumulative effect of the chlorine, as well as the destruction of the algae, which also were killed often under the process.

THE RESPONSIBILITY FOR DEATH CAUSED BY POLLUTED WATER.

On page 380 of the *Engineering Record* for April 8, 1911, there is an interesting decision regarding the pollution of the water supply rendered by the Supreme Court of Minnesota. The complainant charged that the city negligently allowed its water supply to become polluted by sewage, resulting in the death of the complainant's intestate from typhoid fever. The Supreme Court de-

cided that the municipality was liable for its negligence in its private or corporate capacity, and was not exempt because it was carrying on a governmental function. It was also held that the administrator of a person whose death was due to such a cause might maintain an action for damages. The decision in detail can be read in the article.

On the other hand, the Montreal report mentions the litigation in the case of the Booneton plant for Jersey City. After reviewing 3000 pages of testimony, the Chancellor of the State of New Jersey decided that the use of hypochlorite is capable of rendering the water delivered to Jersey City pure and wholesome, so that the water after this treatment attains purity much beyond that contained in water supplies of other municipalities.

CONCLUSIONS.

The following conclusions can be drawn from this preliminary investigation of the subject:

First.—That a certain amount of typhoid fever in Baltimore is caused by the pollution of the drinking water.

Second.—This intestinal pollution has been proven by a large number of examinations of the drinking water made by the State and City Board of Health and by independent observers.

Third.—The experience of other cities shows that when the drinking water is polluted proper methods of purification, such as filtration, will greatly diminish the typhoid mortality.

Fourth.—That a proper purification of the water supply will not only prevent much sickness and death, but will also result in an actual saving of about \$600,000 yearly to the community.

Fifth.—That the use of hypochlorite of calcium in properly regulated amounts will greatly reduce the bacteria present in water, and absolutely rid it of the intestinal bacteria.

Sixth.—That the hypochlorite method of treating drinking water is now in use in a large number of our American cities.

Seventh.—That as a temporary expedient until the filtration plant is completed, the two main sources of our immediate supply, namely, Lake Roland and Loch Raven, should be treated by calcium hypochlorite.

Respectfully,

W. M. ROYAL STOKES,

Bacteriologist.

EXHIBITS.

A—"Whipple's Typhoid Fever," page 236.

B—*Public Health*, 1909-1910, Vol. 23, page 350.

C—*Chemical News*, London, 1909, page 321.

D—*Journal of the American Public Health Association*, February, 1911, page 121.

E—*Engineering Record*, April 15, 1911, page 416.

F—*Engineering Record*, April 8, 1911, page 388.

G—Report on Improved Water Supply for the City of Montreal, July 2, 1910.

TRIGGER FINGER, WITH REPORT OF CASE.

By Nathan Winslow, M.D.

IN the extremely rare condition known as trigger, snapping, spring, lock or jerk finger, either flexion or extension is suddenly arrested owing to some obstacle to the free play of the flexor tendon, and motion is only completed with an outlay of considerable muscular effort or by the aid of the other hand. When the hitch is overcome the finger flies open with a snap or jerk and usually with more or less pain. It is from this characteristic action the affection derives its name. The phenomenon is due to an obstruction in or near the joint, usually a thickening or enlargement in the flexor tendon or the tendon sheath, or more rarely to a contraction in the groove of the transverse ligament in the palm, or a ganglion, or an enchondroma, or a teno-synovitis, any one of which may be produced by trauma. It may, however, occur as the result of rheumatism, rheumatoid arthritis or occupation.

In mild cases the trouble may disappear spontaneously; in others hot wet compresses, massage and passive movements may effect a cure. If this line of treatment prove inefficient, operation is indicated, the principle of which is free exposure, with removal or repair of any evident lesion and closure of the wound.

REPORT OF A CASE.

I. P., a colored girl, 22 years of age, in good health otherwise, consulted me during the early part of March, 1910. She complained of a sore and painful right thumb. The pain was located in the interphalangeal articulation, and was so severe at night that it kept her awake. Motion was also attended with a considerable degree of pain. She gave the history of having injured the member some two months previously whilst driving, a rein having slipped around the finger and wrenched the joint. At the time of her first visit I did not notice any interference with the flexion and extension action of the joint, but on the second I noted that after the finger was flexed it could only be extended by aid, and after the joint was unlocked it flew open with a jerk. I therefore had an X-ray made, which examination revealed a distinct deposit on the inner and palmar aspect of the joint. As the pain and locking of the joint persisted after immobilization and massage, an operation was advised. The patient as a consequence entered the University Hospital, March 14, 1910, and was operated on the succeeding day. An incision was made along the inner side of the flexor tendons of the thumb, and the deposit, which was incorporated in the flexor longus pollicis tendon, found and removed. It proved to be composed partly of dense fibrous inflammatory tissue and partly of calcareous salts. The wound was then closed and the patient put to bed, as she had been subjected to ether anesthesia. She was kept in the hospital overnight, but was allowed to go home the next day. The operation resulted in a

perfect cure both symptomatically and functionally, as at this date, more than a year after the operation, extension and flexion of the joint is perfect and unaccompanied by pain.

DOUCHING AND FANNING VERSUS COLD SPONGING IN PNEUMONIA.

By R. L. Hammond, M.D.

FOR some time past I have been employing cold douches to the extremities with fanning rather than cold sponging alone. In my hands this method has given much better results in the reduction of the temperature and in quieting the nervous symptoms of my patients, and therefore I thought calling the method to the attention of the medical profession worth while. By this method the patient is less disturbed than by the frequent mopping of the parts with cold water, and the reduction in the temperature is more rapid and satisfactory. The extremities are soaked with cold water and then fanned, thus inducing a more rapid evaporation of the water, and consequently a quicker radiation of the heat from the body. I have been employing this method for some time now, and find the patient complains less and is less shocked, the temperature is more easily kept within bounds, and the nervousness is allayed more readily.

Book Reviews.

PLASTER OF PARIS AND HOW TO USE IT. By Martin W. Ware, M.D., New York, Adjunct Attending Surgeon, Mount Sinai Hospital; Surgeon to the Good Samaritan Dispensary; Instructor of Surgery in the New York Post-Graduate School. Second edition. Revised and enlarged. Price, cloth, square form, \$1.25; De Luxe leather, \$2.50. New York: Surgery Publishing Co.

The exhaustion of the first edition and the persistent demand for this helpful book were incentives for a second edition, which has been completely rewritten and enlarged, and its scope of usefulness thus greatly extended. Complete new drawings and marginal side notes in red embellish the book, and 90 illustrations markedly simplify its subject-matter. Such information as history, materials, manufacture of bandages, storage, bandages of commerce, Calot plaster bandages, the immediate preparation of bandages, application and precaution, removal of bandages, etc., are all given under the contents of "The Plaster of Paris Bandages." Then follows chapters on application of the plaster of Paris bandages to individual fracture, fractures of the upper extremity, fractures of the lower extremity, moulded plaster of Paris splints, plaster of Paris in orthopedic surgery, etc., and all presented in such a com-

prehensive manner as to make this book of particular service to every doctor.

EDUCATION AND PREVENTIVE MEDICINE. By Norman Edward Ditman, Ph.D., M.D. New York: Lemcke & Buechner. Paper cover, 25 cts. 1911.

This pamphlet is issued by the Columbia University Press, and the price is such as only to cover the expense of issuance. It deals with the great advance education and preventive medicine have accomplished in the reduction of preventable diseases, but also calls attention to the apathy manifested in some quarters to the elimination of infectious ills. The writer also lays great emphasis on the economic loss to the country afflicted with epidemics of one character or another and the relief afforded by preventive measures. The relationship existing between disease and poverty is thoroughly considered, especially the copartnership between poverty, crime and insanity. The monograph affords much solid reading matter. A careful perusal of its pages will be time well spent, and the reader will arise more firmly impressed than ever of the great influence preventive medicine is wielding in the field of life's happiness.

GOLDEN RULES OF PEDIATRICS. Aphorisms, Observations and Precepts on the Science and Art of Pediatrics. Giving Practical Rules for Diagnosis and Prognosis. The Essentials of Infant-feeding and the Principles of Scientific Treatment. By John Zahorsky, B.A., M.D., Clinical Professor of Pediatrics, Medical Department Washington University, St. Louis; ex-President of the St. Louis Pediatric Society; Attending Physician to the Bethesda Foundlings' Home and the St. Louis Children's Hospital; Member of the American Medical Association and St. Louis Academy of Science; Author of "Baby Incubators," etc. With an introduction by E. W. Saunders, M.D., Emeritus Professor Diseases of Children and Clinical Midwifery. Medical Department Washington University, St. Louis, etc. Second edition. St. Louis: C. V. Mosby. Cloth, \$2.50 net. 1911.

The favorable reception accorded the first volume of this book indicated its need and place; therefore, the present volume needs no apology for its appearance. The author seems to have realized the fact that the busy practitioner has neither time nor inclination to wade through a mass of statistics to get the meat, so has produced a book admirable to the needs of his readers. The essential has been culled from the non-essential, the serviceable from the useless, the practical from the impracticable, the proven from the unproven, and given to the general practitioner in a concrete usable form. Every page bears the impress of being the result of the author's own experience, and not a compilation from other writers. It contains a wealth of practical suggestions in diagnosis and treatment, which will be found very helpful to the busy doctor.

Even students of medicine may gain many helpful suggestions from its contents, but it is too meagre to be used by this class of readers to the exclusion of textbooks on pediatrics. The reviewer must, however, state candidly that the author did not prepare the book for the latter class of readers.

TUBERCULOSIS AS A DISEASE OF THE MASSES AND HOW TO COMBAT

IT. International Prize Essay. By S. Adolphus Knopf, M.D., New York. Seventh American edition, thoroughly revised and greatly enlarged. Single copy, in paper cover, plain but stoutly bound, 25 cts., postage prepaid; 20 or more copies, 20 cts. each, postage extra; 50 or more copies, 19 cts. each, postage extra. Elegantly bound in cloth, 50 cts. each, postage prepaid; 20 or more copies, 40 cts. each, postage extra. New York: Moffat, Yard & Company. 1911.

Since 1901, when the last American edition of this book was offered to the public, so many and so great have been the advances in our knowledge of the manifold aspects of tuberculosis that the author has been compelled to bring it up to date. Each edition has been received with more enthusiasm than the last, and we confidently feel this volume will be no exception to the rule, as tuberculosis has become a burning question of the day, and any communication on the subject by an authority of Dr. Knopf's standing is sure to be eagerly sought after by the reading public, both medical and lay. The price of the book has been made especially low, so that it may be within the grasp of the masses. It is written in a popular vein, and is thus thoroughly understandable by any intelligent person. It contains what should be known by the general public concerning tuberculosis and the methods taken to lessen its prevalence. The illustrations are numerous, and add to the attractiveness and usefulness of the monograph. The present edition should continue as formerly to be an active force in the warfare of eradication of tuberculosis.

A TUBERCULOSIS DIRECTORY. By Philip P. Jacobs, Ph.D., Assistant Secretary. Copyrighted, 1911, by The National Association for the Study and Prevention of Tuberculosis. New York: 105 East 22d street. 50 cts., postpaid.

To those engaged in tubercular work this directory will be found of inestimable value, as it lists 421 tuberculosis sanatoria, hospitals and day camps; 511 associations and committees for the prevention of tuberculosis; 342 special dispensaries; 68 open-air schools; 98 hospitals for the insane and penal institutions making special provision for their tuberculosis inmates, besides giving an account of the anti-tuberculosis legislation in every State and in 250 cities. An insight into the magnitude of the campaign being waged in the United States and Canada against the great white plague can be gained by referring to this book. Here is to be ascertained that over 600 cities and towns of the United States and 100

in Canada are engaged in the war against consumption, and that on April 1, 1911, there were nearly 1500 different agencies enlisted in the antituberculosis crusade, an increase of nearly 700 per cent. in the last seven years. The directory, the third of its kind to be published in the United States, gives the most complete survey of the antituberculosis movement, as well as the great strides made in the past seven years in mastering this scourge. The first directory, in 1904, showed only 183 organizations and institutions engaged in tubercular warfare in the entire United States; the second, in 1908, reported 649 different agencies, and the present, 1440, showing an increase of over 105 per cent. since 1908.

THE PRINCIPLES AND PRACTICE OF BANDAGING. By Gwilym G. Davis, M.D., University of Pennsylvania and Gottingen; Member of the Royal College of Surgeons, England; Professor of Orthopedic Surgery, University of Pennsylvania, etc. Third edition. Revised. Illustrated from original drawings by the author. Philadelphia: P. Blakiston's Son & Company. Cloth, \$1 net. 1911.

The roller, tailed or slings and handkerchief bandages are considered in this little book under sectional heads. Here is to be gotten the manner of preparation and uses of the roller bandages, including the spiral bandage and its modifications, the special bandages of the upper extremity, the lower extremity, of the head and the trunk. The book is of convenient size, printed on an excellent grade of paper, and extremely well illustrated. It is well written, and one of the best attempts of its kind, it has been our privilege to see. It should prove especially useful to students in acquiring the fundamental principles of bandaging, an art thoroughly understood by few.

THE HUMAN ATMOSPHERE OR THE AURA MADE VISIBLE BY THE AID OF CHEMICAL SCREENS. By Walter J. Kilner, B.A., M.B. Cantab., M.R.C.P., etc., Late Electrician at St. Thomas' Hospital, London. Illustrated. Book separate, cloth, \$4; screens separate, \$6; both, \$9. New York; Rebman Company. 1911.

According to the author, everybody is surrounded by a haze which is intimately connected with the body, whether asleep or awake, whether hot or cold, and though under ordinary circumstances are invisible, can, when conditions are favorable, be seen. This mist, the prototype of the halo constantly depicted around the saints, has been manifested to certain individuals, who have received the title of "clairvoyants," and until recently to no one else. It is this haze, cloud, mist or atmosphere that is the subject of this treatise in so far as it can be seen by screens containing a peculiar chemical substance in solution. Mr. Kilner makes no claim to clairvoyancy or occultism, but explains this phenomenon on an entirely physical basis. Mr. Kilner furthermore is of the firm opinion that there is not the scintilla of doubt as to the reality

of the existence of an aura enveloping the human body, and that in time it will be a universally accepted fact, especially as it can be made visible to people with only normal eyesight. He is also convinced that it will ultimately have a diagnostic value. It can therefore be seen that the purport of this volume is to explain, according to physical laws, that which until now has been within the grasp of "clairvoyants" only. The author does not claim that his conclusions are as yet entirely correct, but asserts that he has laid the groundwork for others to build upon. So many new discoveries are occurring in this enlightened age that it behooves no one to sneer at any original work until it has been given a thorough trial and found wanting. The ideas set forth, though novel and smacking of occultism, should be given a thorough trial by those competent to draw accurate conclusions. At any rate, Mr. Kilner speaks with the air of conviction. He has brought forth an entirely new train of thoughts, and deserves credit for being willing to subject himself to possible ridicule. The book makes extremely interesting reading, and is worth a critical study.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially-Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Laryngology, Hygiene and Other Topics of Interest to Students and Practitioners. By Leading Members of the Medical Profession Throughout the World. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, U. S. A. With the Collaboration of Sir William Osler, M.D., Oxford; Frank Billings, M.D., Chicago; John G. Clark, M.D., Philadelphia; J. W. Ballantyne, M.D., Edinburgh; John H. Musser, M.D., Philadelphia; Charles H. Mayo, M.D., Rochester; A. McPhedran, M.D., Toronto; Thomas H. Rotch, M.D., Boston; James J. Walsh, M.D., New York; John Harold, M.D., London; Richard Kretz, M.D., Vienna. With Regular Correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume XI, twenty-first series. Philadelphia and London: J. B. Lippincott Company. Cloth, \$2 net. 1911.

As usual, "International Clinics" is rich in helpful material. One article which will be especially well received is "The Intravenous Administration of Salvarsan in the Treatment of Syphilis," by B. A. Thomas, A.M., M.D., professor of genito-urinary surgery in the Philadelphia Polyclinic Hospital and College for Graduates in Medicine. According to the author, three avenues for the administration of salvarsan are at our disposal—the subcutaneous, the intramuscular and the intravenous. He also informs us that Dr. Hoppe, in the clinic of Professor Dr. Konrad Alt in Uchtspringe, in September, 1909, was the first to try salvarsan on the human subject. In the author's opinion the subcutaneous admin-

istration is doomed to the shortest existence owing to the greater and longer persistence of pain, induration, non-absorption of the chemical and necrosis of the skin. The intramuscular injection is superior to the subcutaneous inasmuch as the above-mentioned objections are not so marked. The writer is of the opinion that, owing to the fact of the rapid elimination of all of the arsenic detectable in the excreta three to six days after intravenous injection, it may not be unwise to supplement the intravenous injection in the course of a week by an intramuscular. The author is firmly convinced that the intravenous administration of salvarsan is the mode of therapy of the future. There is also the technique of the injection, which no doubt will be found of much help to those contemplating this line of treatment. There is an interesting article by Fenton B. Turek of Chicago on the "Diseases Produced by the *Bacillus Coli Communis* in the Intestines: Etiology, Diagnosis and Treatment;" another by Thomas E. Satterthwaite of New York on the "Mobility and Malpositions of the Heart;" Lawrence F. Flick of Philadelphia contributes a paper on "The Progress of the Tubercular Campaign in Pennsylvania up to 1911." Every volume of this publication seems to get better than the last, and this one is no exception to the rule. The subjects discussed are all live questions of the day, and are such as any general practitioner is accustomed to see and called upon to advise or treat daily.

THE PHYSIOLOGY OF REPRODUCTION. By Francis H. A. Marshall, M.A. (Cantab.), D.Sc. (Edin.), Fellow of Christ College, Cambridge, and University Lecturer in Agricultural Physiology. With a Preface by Prof. E. A. Schaefer, Sc.D., LL.D., F.R.S., and Contributions by William Cramer, Ph.D., D.Sc., and James Lochhead, M.A., M.D., F.R.C.S.E. With illustrations. New York: Longmans, Green & Co. 1911.

In this book Dr. Martin has presented the physiology of the generative organs in the minutest detail. In fact, so far as we are aware, this is the only book which deals with this important subject with any degree of completeness. Reproduction and its physiology is at the present time one of the live questions of the day; therefore a book on the subject, especially one so thorough and complete, will no doubt and should be welcome both by the medical profession and the reading public. Anybody with a fair education can read the volume understandingly, as the language is sheared as far as possible of all technical terms. There is no doubt that this effort will stand as an example in its field for years to come, and will act as a stimulant to further investigation of this all-important physiological function. The book is most complete in all of its detail, and is full of a wealth of physiologic facts seldom touched on in the general textbooks of physiology. These have been collected and included in one cover. Every physician can read the book with profit, pleasure and instruction, and those engaged in gynecological work will be better prepared to grasp the import of certain complaints.

William Osler



THE news that King George, upon the eve of his coronation, has bestowed a baronetcy upon Dr. William Osler, Regius Professor of Medicine at Oxford, was received with much pleasure by his numerous friends in this country. It seems more than fitting that the honor conferred by Edward the Seventh in calling from Baltimore and the Johns Hopkins University the one man he considered capable of filling, with credit to both the nation that trained him and the nation that called him, the highest medical position in the world, should be crowned by the additional honor bestowed by the son who desires to uphold his father's principles.

On July 12, 1911, Dr. Osler will be sixty-two years of age. He is a native of Ontario, Canada. He is a graduate of Trinity College, of Port Hope School and of McGill University, all Canadian Institutions. He afterwards took courses at the University of London and at Berlin and Vienna. In 1874 he was appointed to the chair of the institutes of University, where he severing his connections fessorship of clinical versity of Pennsylvania. vice in Philadelphia, laid the foundation of nstician, he was called tice and principles of Hopkins University. ily worked his way ship of the medical faculty, and to probably the largest private practice in the annals of Baltimore medical history.



SEAL OF OXFORD

medicine at McGill remained for ten years, there to accept the pro-medicine at the Uni- After five years of ser- during which time he his reputation as a diag- to the chair of the prac- medicine at the Johns He accepted, and steadily upwards to the dean- ship of the medical faculty, and to probably the largest private practice

While Americans have always taken a certain interest in old Oxford, public attention was not centered upon it to any great extent until the death of Cecil Rhodes and the founding of the Rhodes scholarships. Immediately following the announcement of this great gift came the call to Dr. Osler to accept the regius professorship to that university. Then interest awoke, and probably one of the strongest Anglo-American ties was formed. American boys, up for final examinations at that historic school, lose much of the fear that usually surrounds such an occasion when they find that the genial, kindly, diplomatic Dr Osler is the examiner. The character which made him so beloved in this country is building him an equally lovable following in English hearts, and we are glad that this new honor—which means so much to English people—has come to him.



PHOTOGRAPH TAKEN OF DR. OSLER SHORTLY AFTER HE HAD PASSED HIS
SIXTIETH BIRTHDAY

MARYLAND MEDICAL JOURNAL

NATHAN WINSLOW, M.D., *Editor.*

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ALEXIUS McGLANNAN, M.D.
A. SAMUELS, M.D.

BALTIMORE, JULY, 1911

OUR CHRONIC SHAME.

AT this time of year hydrophobia, typhoid and tetanus are ever-present visitors, and each is attended with its toll of loss of earning capacity to the community, and in some instances death. The distressing part of the calamity is the utter ridiculousness of the existence of these diseases at all.

Daily the papers are calling attention to the prevention of typhoid fever by vaccination against this infection. We are heartily in favor of any method which will in the least degree lessen the prevalence of that disease. But we ask the question, Why this vaccination, when all that is necessary for the total elimination of typhoid is the boiling of all suspected water and the destruction of the breeding places of flies, together with the screening of the house and all food supplies? It is the duty of every physician to impress upon his constituents the necessity of boiling their water, which is certainly much less troublesome and annoying than the injection of dead cultures into your body. It is a disgrace to any civilized community that its citizens must drink a contaminated water, and those in control should be held derelict in their obligations to the health of the community if they willingly permit the source of the city's drinking supply to become polluted. The Baltimore water supply is contaminated, as attested by the ever-increasing number of typhoid-fever cases occurring in our midst, and the only way to check its inroads is to gain absolute control of the watershed. Each citizen should arise in his might and demand his rights in this matter, and physicians should hew the way.

Hardly a day passes without one reading in the daily papers that another has fallen a victim to a dog's bite. One day there was

recorded the biting of eight people by the same dog. The time has come when such a state of affairs should be rectified. The fact that A is a dog lover certainly gives him no license to harbor a nuisance and a civic menace. The life of one person is as valuable as that of a thousand dogs. Therefore if the presence of dogs is necessary to the happiness of some, those who keep them should not be permitted to allow their pets on the streets without leash and muzzle, and not a make-believe muzzle such as we are accustomed to see. The lives of our citizens should not be constantly put in jeopardy from this dreadful scourge. Sufficiently drastic laws should be enacted to forever eradicate the possibility of the occurrence of rabies. The dangers of hydrophobia have been preached in season and out of season, and, beyond the momentary hue and cry, nothing is done. The law ordains that dogs shall be muzzled, and sees that they are, but with no special specification as regards the security of the muzzle. It would seem that the city is not alone in this remissness, but that the S. P. C. A. might also be called to account for carelessness where vicious dogs are concerned. The love of animals is a matter apart from the safety of the children of a community. The wise dog lover places his pet in its proper relation, and is quick to order that the animal be painlessly killed when its health becomes disordered to a serious degree. Any person who can afford to pay the small tax imposed can own a dog, but the person who takes the Pasteur treatment pays the cost of a hundred licenses for treatment alone, and then sometimes his life is the price. If the city were compeiled to pay the expenses incurred in the Pasteur treatment, more drastic laws would soon be passed.

In the prevention of tetanus we have an example of what the city can accomplish by wise and absolutely just laws. The privileges of no one has been unnecessarily curtailed; the children can have every bit as much fun as in days gone by, and this without so much risk of contracting tetanus. The Fourth of July, however, draws nigh, and it may not be amiss to emphasize the fact that toy-pistol wounds are frequently attended by lockjaw. Therefore, in wound of this character the injection of prophylactic injections of antitetanus serum should be made a matter of routine practice. There is no doubt that antitetanus serum used in this way has lessened the prevalence of tetanus after such injuries.

Medical Items.

ST. JOHN'S COLLEGE, Annapolis, at its annual commencement, June 21, conferred the honorary degree of Master of Arts upon Dr. Eugene Lee Crutchfield of 1221 East Preston street, Baltimore, Md.

DRS. RANDOLPH WINSLOW AND WILLIAM E. WIEGAND are attending the meeting of the American Medical Association in Los Angeles.

DR. CHARLES H. FISHER is on a motor trip through the New England States.

DR. GEORGE HELLER, who has been seriously ill with rheumatic fever at St. Joseph's Hospital, is reported as being greatly improved.

DR. AND MRS. S. R. BARR, 1313 John street, have announced the engagement of their daughter, Miss Annie Clarke Barr, to Dr. Edgar Merryman Parlett, Baltimore Medical College, '02, of 1805 Park avenue, Baltimore.

DRS. HUGH H. YOUNG, Anton Rytina, Emil Novak, Cary B. Gamble, William S. Halsted, Richard H. Follis, W. A. Fisher and Frederick Taylor of Baltimore, Dr. Philip Travers of Easton and Dr. W. F. M. Sowers of Washington are abroad for the summer.

DR. ROBERT GARRETT LEE LUMPKIN of 117 North Fulton avenue has returned from a tour of European cities.

A LARGE wing, 46 by 114 feet, will be added to the Maryland Hospital for the Insane during the summer months. Accommodations will thus be afforded for about 75 additional patients. The first floor will contain the women's industrial shop, the second floor, dormitories, and the third will contain quarters for 25 nurses. A double kitchen, 70 by 80 feet, will be erected in place of the one now occupying the center of the main building.

MARRIAGES.

AUGUST FERDINAND RIES, M.D., College of Physicians and Surgeons, '03, of Baltimore, Md., to Miss Fannie Morris Gardner of New Rochelle, N. Y., February 16, 1911, at New Rochelle.

DEATHS.

CHARLES M. ELLIS, M.D., University of Pennsylvania, '61, of Elkton, Md., died at the Johns Hopkins Hospital, Baltimore, June 3,

after an operation for appendicitis, aged 73 years.

THOMAS H. BELTZ, M.D., University of Maryland, '63, died at his home in York, Pa., May 11, 1911, from nephritis, aged 69 years.

HENRY KUNKEL, M.D., College of Physicians and Surgeons, '89, died at his home in Kingston, Pa., April 26, 1911, from chronic nephritis, aged 49 years.

THOMAS CALLAGHAN, M.D., Baltimore Medical College, 1900, of Smith's Hill, Providence, R. I., died at the East Side Hospital, Providence, May 5, 1911, from cerebral hemorrhage, aged 39 years.

AUGUSTUS J. LYONS, M.D., Baltimore Medical College, '96, died at his home in Spencer, W. Va., June 1, 1911, from quinsy, aged 38 years.

HORACE BRAND COLE, M.D., Baltimore Medical College, '93, of Sedalia, Mo., died at the Maywood Hospital, Sedalia, June 3, 1911, of typhoid fever, aged 49 years.

SAMUEL MARMADUKE BENT, M.D., Baltimore Medical College, '02, of Riversville, W. Va., died at the home of his parents in Granville, May 31, 1911, of tuberculosis, aged 34 years.

VAN E. DELASHMUTT, M.D., University of Maryland, '54, died at his home in Shelburn, Ind., May 25, 1911, aged 79 years.

ROBERT H. GANTT, M.D., University of Maryland, '09, Medical Corps, U. S. A., died at Fort Sam Houston, Tex., June 11, 1911, of nervous breakdown, aged 27 years.

EDWIN G. DARLING, M.D., University of Maryland, '82, died at his home in Lauraville, Md., June 6, 1911, of consumption, aged 52 years.

JOSEPH T. PINDELL, M.D., University of Maryland, '65, died at his home in Wellsville, Kans., May 22, 1911, of Bright's disease, aged 81 years.

G. E. MILTON SMITH, M.D., University of Maryland, '88, of Baltimore, died at the Church Home and Infirmary, Baltimore, May 22, 1911, aged 43 years.

STEPHEN HARRISON GRIFFITH, M.D., University of Maryland, '90, of Greenwood, S. C., died at Gaffney, S. C., May 13, 1911, of heart disease, aged 44 years.

ROBERT ATKINSON, University of Maryland, '54, died at his home in Baltimore, May 22, 1911, of pneumonia, aged 79 years.

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A REPORT OF A CASE OF PREGNANCY COMPLICATED BY HEART AND KIDNEY DISEASE, WITH SPECIAL REFERENCE TO THE TREATMENT OF SEVERE CASES.

By E. H. Kloman, Ph.G., M.D.

THE case to which I will refer was a most interesting one, and has only recently left my care in University Hospital to return home in very good condition. I first saw this case with Dr. Thomas H. Brayshaw at the home of the patient in Anne Arundel county. He gave a diagnosis of heart and kidney trouble, with possibly some pre-eclamptic symptoms. I found the patient to be a rather pale woman, lying on a couch with her head and back supported by several pillows. She complained of pain in the chest, shortness of breath, giddiness, swelling of the extremities and visual disturbances, with severe headache. All of these symptoms were increased upon exertion. With a rather hurried and unsatisfactory examination I found a dry, tight skin, which pitted at all points on extremities, a mitral murmur which could be heard at most any point over the thorax, edema of the lungs, rapid respirations and last, but not least, a pregnant uterus of about 26 to 27 weeks' duration. I requested a 24-hour specimen of urine, and with Dr. Brayshaw urged her husband to send her to a hospital at once (her home being several hours from the nearest physician). Unfortunately, she refused to enter a hospital at this time, although we both protested and warned both husband and patient against the dangers of postponing. The urine showed 3 per cent. of albumen, hyaline and granular casts in abundance; total quantity in 24 hours, 600 c.c., with only 10.2 gm. urea per day. (At this time patient was not on a restricted diet, and was eating meats twice a day.)

Several weeks afterwards her physician was called in a great

hurry to see her, and, if I remember correctly, was unable to go at the time, and ordered her "by 'phone" to go to the hospital at once. Her complaint then was intense headache, weakness and fainting spells. She arrived in ambulance and had to be carried to her room on a cot. She could only rest when propped straight up in bed. All of her accessory muscles of respiration were brought into play. Her respirations were 38 to minute; pulse, 120; temperature, 96; facial expression anxious and mucous membranes bluish.

HISTORY AND PHYSICAL EXAMINATION.

As the points of interest require a rather lengthy description, I will not give a complete report of her physical examination.

Name, A. H.; married; white; age 34 years; six normal labors. Married to the second husband. Previous pregnancy six years ago. This is her first pregnancy by this husband. She had scarlet fever when 13 years old; rheumatism six years ago, with recurrent attacks every 6 to 12 months; no history of syphilis on either side. At the time of examination is noted a poorly-developed white female in the upright position, showing no evidence of acute pain. Facial expression anxious. Breathing quick and short. Some edema of lower eyelids. Forehead rickety. Eyes, marked right retinal hemorrhage, otherwise normal. Nothing of special interest about nose, mouth and neck save marked pulsation of cervical vessels. Thorax rickety, as evidenced by deep depression of sternum (shoemakers' chest) and rachitic rosary, the depression extending as high up as third rib. It may be congenital, and seems to interfere somewhat with breathing. Expansion very limited, tactile fremitus present and equal on both sides anteriorly. Percussion note over both apices normal, becoming dull and almost flat in character when bases are approached. Voice and breath sounds come through with difficulty at bases, but are normal over apices. Large moist mucus rales are to be heard over both bases. Back, a similar condition exists as over the front. No tenderness of spine. Slight scoliosis is present in dorsal and lumbar regions. Diagnosis, edema of both bases extending to sixth interspace.

Heart—P. M. I. visible and palpable in sixth and seventh interspace, one and a half inches to left of mid-clavicular line. A. C. D. enlarged downward and to left, showing evidence of hypertrophy and dilatation. First sound at apex is loud and blowing, completely replacing its valvular component. It is transmitted through the left axillary region to the angle of left scapula. In fact, it can be heard over the entire chest wall, with its maximum intensity along the left edge of sternum. Second sound of poor muscular quality. The pulmonic second sound at the base is very much accentuated. There is also marked edema of abdomen and lower extremities. I give a chart below representing daily blood pressure, maximum and minimum temperature, maximum and mini-

imum pulse, respiration, daily quantity urine in c.c., daily quantity of urea in gm., hemoglobin and diet:

| DAY. | Blood Pressure. | Maximum Temperature. | Minimum Temperature. | Maximum Pulse. | Minimum Pulse. | Respiration. | URINE. | | | Hemoglobin. Per Cent. |
|---------|-----------------|----------------------|----------------------|----------------|----------------|--------------|-------------------|-------------------------|-------|-----------------------|
| | | | | | | | D'ly Amt. in c.c. | Urea in 24 hours in gm. | | |
| 1..... | 190 | 99.4 | 96 | 120 | 92 | 38 | 600 | 10 | 50 | ..... |
| 2..... | 185 | 98.4 | 97 | 115 | 95 | 30 | 1200 | 10.2 | ..... | ..... |
| 3..... | 180 | 98.4 | 97.6 | 115 | 105 | 24 | 1500 | 17 | ..... | ..... |
| 4..... | 190 | 98.4 | 97.8 | 105 | 100 | 24 | 1800 | 17.2 | ..... | ..... |
| 5..... | 180 | 98.4 | 97 | 72 | 68 | 24 | 1800 | 18 | ..... | ..... |
| 6..... | 188 | 98 | 97.8 | 80 | 80 | 24 | ..... | ..... | ..... | ..... |
| 7..... | 192 | 99.2 | 97 | 82 | 80 | 24 | ..... | ..... | ..... | ..... |
| 8..... | 200 | 98.2 | 97.8 | 80 | 78 | 22 | ..... | ..... | ..... | ..... |
| 9..... | 192 | 98.2 | 97 | 90 | 72 | 24 | 1800 | 18.2 | ..... | ..... |
| 10..... | 200 | 98 | 97 | 92 | 80 | 22 | ..... | ..... | ..... | ..... |
| 11..... | 200 | 98 | 98 | 90 | 72 | 22 | ..... | ..... | ..... | ..... |
| 12..... | 200 | 98 | 97.8 | 100 | 74 | 22 | ..... | ..... | ..... | ..... |
| 13..... | 210 | 98.2 | 97.4 | 88 | 80 | 22 | ..... | ..... | ..... | ..... |
| 14..... | 208 | 98.3 | 97 | 88 | 72 | 22 | 2000 | 18.5 | ..... | ..... |
| 15..... | 192 | 98.6 | 98 | 92 | 88 | 24 | ..... | ..... | ..... | ..... |
| 16..... | 190 | 98.6 | 97.7 | 88 | 70 | 22 | ..... | ..... | ..... | ..... |
| 17..... | 200 | 98 | 97.2 | 98 | 65 | 24 | ..... | ..... | ..... | ..... |
| 18..... | 120 | 98.4 | 98 | 80 | 70 | 28 | ..... | ..... | ..... | ..... |
| 19..... | * {110 156} | 98.2 | 97.8 | 72 | 72 | 22 | 1800 | 18 | ..... | ..... |
| 20..... | 160 | 98.8 | 98 | 110 | 72 | 22 | ..... | ..... | ..... | ..... |
| 21..... | 190 | 99.6 | 98 | 85 | 72 | 24 | ..... | ..... | 60 | ..... |
| 22..... | 158 | 98.6 | 98.2 | 90 | 65 | 22 | ..... | ..... | ..... | ..... |
| 23..... | 166 | 98.4 | 98 | 85 | 72 | 22 | 1800 | 18.5 | ..... | ..... |
| 24..... | 150 | 98.4 | 98 | 88 | 80 | 22 | ..... | ..... | ..... | ..... |
| 25..... | 164 | 98.2 | 98 | 90 | 85 | 22 | ..... | ..... | ..... | ..... |
| 26..... | 162 | 98.6 | 97.8 | 105 | 85 | 22 | ..... | ..... | ..... | ..... |
| 27..... | 170 | 98.2 | 97.8 | 102 | 85 | 22 | 1800 | 18 | ..... | ..... |
| 28..... | 156 | 98.6 | 98 | 100 | 85 | 22 | ..... | ..... | ..... | ..... |
| 29..... | 160 | 98.6 | 98 | 92 | 82 | 22 | ..... | ..... | ..... | ..... |
| 30..... | 166 | 98.8 | 97.8 | 110 | 82 | 22 | 1820 | 18 | ..... | ..... |
| 31..... | 150 | 98.4 | 98 | 110 | 90 | 22 | ..... | ..... | ..... | ..... |
| 32..... | 152 | 98.6 | 97.2 | 110 | 88 | 22 | ..... | ..... | ..... | ..... |
| 33..... | 150 | 98.6 | 97.8 | 100 | 80 | 22 | ..... | ..... | ..... | ..... |
| 34..... | 160 | 98.4 | 97.8 | 100 | 80 | 22 | 1850 | 18.2 | ..... | ..... |
| 35..... | 155 | 98.4 | 98 | 100 | 74 | 22 | ..... | ..... | ..... | ..... |
| 36..... | 152 | 98.4 | 98 | 102 | 85 | 22 | ..... | ..... | ..... | ..... |
| 37..... | 156 | 99 | 98 | 85 | 80 | 22 | ..... | ..... | 65 | ..... |
| 38..... | 150 | 98.2 | 98 | 87 | 78 | 22 | ..... | ..... | ..... | ..... |
| 39..... | 152 | 98.4 | 98 | 80 | 72 | 22 | ..... | ..... | ..... | ..... |
| 40..... | 150 | 99 | 98 | 80 | 70 | 22 | 1800 | 18.5 | ..... | ..... |
| 41..... | 150 | 98.4 | 98 | 78 | 72 | 22 | ..... | ..... | 70 | ..... |

*During and after labor.

Treatment.—The patient showed signs of acute illness, and it was very evident that immediate treatment was necessary. She was too ill to attempt induction of labor, so an attempt was made to bring the heart and kidneys back toward their normal before attempting to empty the uterus. She could not retain Tr. Digitalis, due most probably to the dilated gastric veins. A salt and protein free diet was at once begun. Patient was kept in bed propped up on pillows. Deep muscular injections of $\frac{1}{2}$ of a 1 c.c. ampula strophanthin (1/120 gr.) were given twice a day; $\frac{1}{8}$ gr. of morphia hypodermically every four hours. Plenty of water and free saline purgation. The edema disappeared rapidly, and the heart tone soon began to improve, patient felt better and all nausea ceased with an increasing appetite.

Before going into the treatment of induction of labor I would like to say a few words about heart diseases in general as a com-

plication of pregnancy. In every pregnancy with a normal heart there is an increased volume of blood and an increased tension. This tends to improve the circulation save in those cases where a chronic valvular disease exists. A degree of compensation by hypertrophy may have been attained sufficient to maintain the circulation under ordinary circumstances, but when a further dilatation and increase of tension is produced by pregnancy the powers of nutrition may be unable to respond by producing a further compensation by hypertrophy. Certain degrees of anemia (which was shown in this case) make dilatation without compensation more probable, especially when associated with vomiting and other digestive disturbances. A still further strain being placed upon the diseased heart by the process of labor, as shown by the irregular heart action and the cyanosis of the patient at the time.

When the heart disease is at all grave, pregnancy therefore proves a very serious complication, abortions or premature labor frequency resulting, with a maternal mortality varying from 14 to 60 per cent., according as the cases are selected and treated. According to Macdonald, cases of mitral regurgitation prove the least grave, those of mitral contraction the most grave. This is probably explained by the fact that in the latter cases the tension, which generally produces dilatation and hypertrophy of the left ventricle is all expended upon the left auricle and then thrown back upon the lungs and right heart. The prognosis also depends in great part upon the condition of the heart muscle rather than upon the extent of the valvular lesion. The patient generally dies of overdistension of right heart and cardiac paralysis.

Treatment, "with an aim to terminate pregnancy." As I have already tried to show, all cases should be in a condition as near normal as medical agents will permit before any attempt be made to empty the uterus. Why do we want to terminate labor? Because the processes of pregnancy and labor, which are considered as physiological, have become complicated by pathological conditions, which increase in severity as pregnancy continues and directly raise the maternal and foetal mortality with the severity of the labor. I am now speaking of the more severe cases of dilatation, and not a simple case of mitral disease. We therefore want pregnancy to advance as far as is consistent with maternal safety, and we want a labor that is as near as possible to nature, but one that is of short duration and of no great shock to the mother, ever remembering to avoid anesthetics (especially chloroform, as here the heart is still further dilated), and avoid the use of agents that cause uterine dilatation and expulsion by severe pain.

We may choose from the following methods when considering the induction of labor:

First—The introduction of flexible bougies. The mode by which this instrument acts is to excite reflex stimulus, the bougie acting as a foreign body.

Second—The premature rupturing of the membranes, allowing the escape of fluid and thus allowing the uterus to come in contact

with the bony foetus, which, in turn, causes a reflex stimulus to contractions. Both of these methods cause long and severe labors, and for this reason alone are not suited to these cases.

Third—Oxytoxic drugs may be thought of, but these cause severe pains and frequently act as cardiac depressants.

Fourth—Intra-uterine injections of warm water and certain drugs also act by causing severe uterine contractions and a slow labor.

Fifth—Vaginal tampons are uncertain, and if they act at all, are slow and severe.

Sixth—An ideal way (especially in premature labors) would be the vaginal Caesarean, the one chief objection here being the necessity for profound anesthesia.

Seventh—The use of hydrostatic dilators. In most of these cases the patients are multiparous, and we usually find the cervix dilated enough to admit one finger; hence allowing the introduction of a small rubber bag. I generally begin with one of the Barnes fiddle-bag dilators, and after dilatation has taken place enough to allow the bag to escape I lose no time in introducing a larger bag, one of the Champetier de Ribes type, which, when properly introduced and inflated, gives dilatation sufficient to allow the passage of the head.

Very slight uterine pains will suffice to cause complete dilatation; in fact, the mere mechanical pressure of the bag with a weight attached will frequently dilate the cervix without discomfort to the patient. The operation for their introduction is simple, and requires no anesthetic. After thorough asepsis the patient is in exaggerated lithotomy position and the vagina dilated with a Sims speculum, the cervix held by bullet forceps and the bag introduced while rolled up like a cigarette drain. There is a special instrument made to introduce the bag, but I find a long dressing forcep will generally suffice. The average mistake is made by not carrying the bag far enough up. It should always be above the external os. After the bag is in place a large metal syringe filled with normal salt solution or sterilized water is used to fill the rubber bag and a vulva pad placed over the external genitalia. The patient is then placed in bed and a weight (not over two pounds) may be suspended to the bag and with a pulley swung over the foot of the bed.

In most instances I find that the patient experiences very little pain before the cervix is dilated and the presenting part well down in the pelvis. I used this method in my heart case, and the patient did not complain of pain until the Champetier de Ribes bag was expelled, and with these slight pains the child was delivered. She suffered little or no shock, and the blood pressure was only slightly raised. She had some P. P. H., which caused a fall in B. P., but was easily controlled by a uterine pack with a quick return of blood pressure. The child was born alive, and was fairly well nourished. I did not allow the mother to nurse the child for some time. The puerperium was as near normal as could be expected, and with the aid of strophantidin and morphia the heart returned as near to normal as could be reasonably wished for. The lungs were clear and

edema all gone. Headache and dizziness had ceased, and she was able to walk when discharged. At the time of discharge I had her taking potassium iodide for her arterosclerosis and retinal hemorrhage, nitroglycerine for the blood pressure. But let me say a word right here: you must not lower the blood pressure too much in these cases, as her normal blood pressure is now about 150 instead of 120. I am firmly convinced that if this woman should have been allowed to go to term she would have died in the attempt to deliver herself, if not before. I am also aware of the fact that we do not know at what day or hour her heart may dilate and fail to compensate, but I do know this, that it will not be when she is in the peril of childbirth, unless she should be so unfortunate as to conceive again.

With the success of the case just mentioned goes much credit to Drs. Byerly and Douglass, and I owe them many thanks for their assistance. I am also deeply indebted to Dr. Blodgett for his assistance on the heart and lung work.

1619 St. Paul street.

DISEASES OF THE EAR, NOSE AND THROAT, FOR THE FAMILY PHYSICIAN AND THE UNDERGRADUATE MEDICAL STUDENT.

By Henry Ottridge Reik, M.D., Associate in Ophthalmology and Otology in the Johns Hopkins University, and Surgeon in the Baltimore, Eye, Ear and Throat Hospital, Baltimore, Md. Assisted by A. J. Neilson Reik, M.D., Surgeon in the Baltimore Eye, Ear and Throat Hospital, Baltimore, Md. With 81 illustrations in the text and two colored inserts. Cloth, \$3 net; half leather, \$4. New York and London: D. Appleton & Co. 1911.

We are more than pleased with this book for many reasons, among which may be mentioned the entrance of Baltimoreans into bookmaking, not that others have not published books before, but they are few and far between. This should not be with the opportunities afforded by our medical surroundings. The book is admirably adapted to the needs of those to whom it is directed, namely, the family physician and general practitioner of medicine. Most books on the specialties, nose and throat included, are padded with a great deal of unnecessary details not needed by the student or physician, and which in most instances form a positive drawback. The writers of these books do not seem to realize that their readers are not specialists, and do not desire special information, but only sufficient to enable them to treat their patients intelligently. Dr. Reik seems to have avoided this error in the preparation of his book. He ever seems to keep before him that he is writing for students and physicians who do not need the deep insight of the specialist. This fact alone renders the book very valuable to the class of readers for whom it is intended, especially so as it is very complete and accurate. Although condensed, one is surprised with the amount of good solid information contained within its covers and we unhesitatingly recommend it as thoroughly trustworthy and adapted to the purposes it is intended to subserve.

A STEREOPTICON LESSON IN SEX HYGIENE.

By Milton Fairchild,

Baltimore, Md.,

Director of Instruction, National Institution of Moral Instruction.

THE following is the outline of a stereopticon lecture on sex hygiene and morality which has been prepared for consultation with the Maryland Society for Social Hygiene and others interested. Dr. J. M. T. Finney has been involved in the formulation of the outline and Dr. Donald Hooker has planned the use of the lecture, if suitable, in the sex hygiene work of Maryland. The officers of the National Federation for Sex Hygiene are also involved in the consultation. Suggestions and criticisms are desired, and especially reports of successful instruction in private practice.

The Code of Morality to be presented is as follows:

A MAN'S HONOR TOWARD WOMEN,

the Code in Vogue Among True Men: 1. Be continent in your youth. 2. Prepare for marriage by purity of mind and body. 3. Realize the ideal marriage. 4. Be true to your home. 5. Bring up the children, healthy, intelligent and righteous. 6. Be respectful and courteous to all women.

The outline of pictures and ideas is as follows:

NOTES DESCRIBING PICTURES TO BE USED IN ILLUSTRATED LESSON ON SEX MORALITY AND HYGIENE.

INTRODUCTION.

1. Group of gentlemen talking with women friends, to show the type of man whose opinion is represented in the "code in vogue among true men."
2. A group of photographs showing the normal life history—boy of 15 years, young man starting his life career, marriage, family and home, old age.

I. BE CONTINENT IN YOUR YOUTH.

1. A boy in fine physical condition. Physical development a basis for achievement and the normal happy life.
2. A naked man in good physical condition, front view. The type of man desired as a leader in society and father of human stock.
3. The fertilization of the sea urchin egg. Exceedingly important that the male and female elements be healthy. A reason for continence in youth.

4. A stallion raised for breeding purposes. The care with which animal breeding is done. Continence is enforced until full maturity is reached.

5. Example of nature enforcing continence in the wild animal world during immaturity. No harm to health; no undeveloped powers of generation.

6. Families of men who remained continent during youth. No harm to the human boy from lack of use of generative organs.

7. Boy in poor flesh, eyes dull, listless. The weakening of vitality and of mental powers which sensuality produces. The danger of loss of self-control. The sense of personal shame. The unmanliness of "wild oats."

8. A boy who has done himself injury by self-abuse. Consult your own family doctor if worried about your condition.

9. The athlete in possession of all his energy. Continence necessary to highest physical achievements.

10. Typical face of boy of good character, indicating energy and ability. Continence a factor in preserving stamina. Perhaps several photographs.

II. PREPARE FOR MARRIAGE BY PURITY OF MIND AND BODY.

1. A human couple known to have been continent in youth. The increased confidence. The joy of the pure marriage.

2. Photo, from polygamous country. The first wife is given romantic love. An agreement is often entered that there shall be no second wife. It is natural for human beings to long for this monogamous marriage, and continence is essential to it.

3. Higher animals—eagles. Mating is often monogamous from instinct.

4. A pure mother with her family. Worthy of her husband's exclusive love, and not to be thought of as degraded by her marriage relation.

5. The woman of the street. Held in universal contempt.

5.1. A wedding party. Unless both the young people are physically healthy there ought to be no wedding. A young man should know himself to be sexually healthy before he proposes marriage. Brothers should protect their sisters against marriage with a diseased man by personal inquiry made to the man himself, and if there be doubt, by requiring a physician's certificate.

5.2. A quack doctor's advertisement. The weak-minded boys, who get worried about themselves, are victimized. If diseased or defective, go to a doctor who is accredited by the Societies of Medicine.

6. A beautiful home. Possibly your future home, and its joy may be taken from you and from your wife by folly in youth. The wife's loss of love when she learns of these.

6.1. A man afflicted with locomotor ataxia. The danger of this after years of supposed good health. The public disgrace.

6.2. The figure of a male flirt. The unmanliness of "fussing." The danger when one is not ready to marry, and the cruelty. Common sense should be the ground on which marriage rests.

7. A sweet, pure girl's face. Someone's future wife. The shame of impure thoughts toward her. It is a boy's duty to preserve the purity of the girls of his community. No "flirting" with her. No seduction.

8. A sensual girl's face. The disgust of the gentleman against her. The duty to protect her against herself.



ILLUSTRATING NO. 7.

9. The face of the libertine. His character outlined. The intense contempt felt for him.

10. A group of gentlemen and ladies in conversation. The thought of the sexual relations is not in the mind of any. It is not suggested by words or looks.

11. A young man and his betrothed. True, pure love is always to be respected.

12. Young men with heads in their girls' laps. Poor taste, and not the expression of true love and respect. Avoid compromising a girl's reputation, for many are suspicious.

12.1. The corner crowd. Shame the peeping Thomas.

14. A group of gentlemen who preserve this purity of mind and body. They have the higher satisfaction in marriage love, and are the gentlemen in their social life with women friends.

15. A normal boy, dressed. Of course he has sex desires. The practice of continence made easier by deliberately keeping from sensual suggestions and excitements. Books and associates and amusements.

III. REALIZE THE IDEAL MARRIAGE.

1. Married couple with their first baby. Freedom for sexual intercourse is allowed by law and public opinion under home conditions. The result is the good of society and the reproduction of human life. The baby is honored and has its rights under the law.

2. Man and wife who are intellectual equals and true companions. The contrasts between masculine and feminine intelligence pointed out. The completion of each in the life and thought and feeling of the other.



ILLUSTRATING NO. 12.

3. Man rendering some personal service to his wife. The refinements of character which married life brings. Unselfishness, gentleness, devotion.

4. The home companionship. Father, mother and children work together for the success of the home—food, clothing, health and happiness.

5. A house. To own it and use it as a home, and to realize the joys of his own home, is the goal of endeavor for the normal man, and the natural plan for getting the most out of life.

6. The duties of man and wife in the home. Man earns the money, but the woman keeps the house, cares for children and

does her share of the work, having therefore her equality in rights. They enjoy social life and have public duties together.

7. The man's responsibilities. Photo. of bills to be paid.
8. Girls that turned out good wives. A descriptions of their characters.
9. Girls that are hardly worth marrying. Something besides physical attractiveness is necessary for the home life.
10. A divorced couple. The broken heart of the one who was true and pure.
11. Man and wife with children out for a picnic. The ideal marriage, realized, is the constant, permanent joy of life. The memory of it is sacred. Anticipation of it should strengthen a boy to preserve himself pure, and to fit himself for a true success in life in order that he may gain the opportunity for it.

IV. BE TRUE TO YOUR HOME.

1. Photographs of venereal diseases. Contracted only through infection. Continence avoids them.
2. Operation being performed on a wife infected by her husband. The cruelty and disgusting nature of this inoculation of wives with diseases contracted from sexual contact with immoral women.
3. The diseased child, from infection of the father. The blind, the insane, also. A moment of desire, and a life of misery. The remorse of the father. The resentment of the mother.
4. The bastard child. Without rights and social standing. A result that should put a curse upon the father.
5. A man with his family. The protector of their good name. Avoid suggesting love for other women. Keep other women at their proper distance. The change from the attitude assumed before marriage. The disgrace of the son who is a libertine.
6. A woman in evening dress. The wife of some man. This fact is recognized, and liberties distasteful to her husband are not to be taken. An immoral proposal is especially resented by all gentlemen when made to a married woman. Be true to your mother, and respect her right to your continence.
7. The face of a weak girl. Being true to the idea of home restrains a man from seduction. Protect her as you would want your sister protected. The gentleman protects girls and women against themselves.
8. A young couple on the honeymoon. Have they been true to their home during their youth? The perfect love of marriage depends upon this.
9. A golden wedding celebration. The goal of self-control. The normal human life.

V. BRING UP THE CHILDREN HEALTHY, INTELLIGENT AND RIGHTEOUS.

1. Mother with child just born. Father standing by. At such a moment the father appreciates what it means to be healthy—free from sexual diseases—and the mother, if she thought the child diseased from infection by the father, would find her love turned to hate.

2. A group of inferior animals—horses. The importance of good stock. There are human beings from whom children better not come.



ILLUSTRATING V, NO. 3.

3. Two men—one good stock, the other poor in quality. The contrast, and the influence of one's own exertions to be worthy of parenthood.

4. Inferior children born of good parentage. The uncertainty of inheritance, and the advisability of being perfectly healthy during child-begetting period.

5. A child with fine mind but weak body. The weakness hinders a satisfactory life career.

6. Boys of weak character and intelligence. Unworthy of their sires. Partly the degeneration of the stock; partly the fault of bringing up; largely the fault of the boys themselves.

7. Man and wife together from whom has come a fine family of children. Children young, baby only a few months old, and in

arms. The prospects that lie before that home if all goes well, and the parents and children strive to realize what is attainable.

8. A family of children disgraced by the father's life. The shame and cruelty of such disgrace.

9. A father who was disgraced by his children because their bringing up was neglected. Not trained to industry, uneducated, allowed to have their own way in matters of morals.

10. A family of children, 15 to 30 years, that is an honor to the parents. The pride and comfort of such a product of marriage.

11. Children deprived of home by divorcee of parents. The right of marriage rests on the duty of parents to bring up their children well. The good of society requires good health for the children, keen intelligence, and reliability of character.

12. Children caring for aged parents in their own homes. The recognized obligations of children to parents rests upon the needs of parents in old age, and is universal. Part of natural life to have children who will render this service in old age.

13. A church building, with clergy and children attending service. The dependence of character on training in morals and religion.

14. A college campus, with students going to class. A thorough education is the best equipment for the children. If they try, they can then make a true success of life. The bad influence of money without good training to hard work.

15. A trade school. The advantage of special education in some gainful trade to be used by both boys and girls as a resort even if educated for some intellectual career.

16. A father and his son. The boy an honor and resource for the father because of his industry and true success.

17. A home scene in the library. The home of books and good talk, of music and general interest in affairs conducive to the development of the children. These advantages must be made use of. Children from homes having no advantages sometimes overcome disadvantages by personal efforts.

18. A boy's face, large. One who more than fulfilled his home expectations.

VI. BE RESPECTFUL AND COURTEOUS TOWARD ALL WOMEN.

1. Male and female figures in contrast. Each is suited to the natural sphere of activities. The woman bears her children, and the man provides for her and their family. She renders her service in the home work. Both take such interest in public affairs as these family duties allow time and strength for.

2. A rescue at sea. Women and children are transferred first. The man's strength of physique makes him the physical protector of the woman, but not her master in these modern days.

3. A nurse in an army hospital. When physical power is the resort instead of courts of justice, the woman has to rely on man to bear the burden of the fight. Instinct is against exposing women to death and hardship.

4. A female wolf. No male wolf will fight with her, unless in self-defense. Among men the instinct to respect the physical good of women is very strong.

4.1. Policeman escorting a woman across the street. Her clothing and habits justify this. She is not expected to dodge and run, and to "look after herself." Many could and some have to, but it is not the wish of men that this be necessary.

5. A man helping a woman from a carriage. Often merely a courtesy. But at special times, when with child, a woman in perfect health needs even this personal service.

6. A woman-spending the day in bed. The monthly weakness which entitles her to special physical considerations. This is nature's plan for woman's life, and prepares her for the honor of motherhood. The courage of women.

7. Husband helping a wife who has their baby in her arms. The man's strength is to be at the service of his wife.

8. Husband taking a walk with wife who is in a family way. The man's purpose to give her special care during these months. He is as anxious as she that all go well. Her life and that of the child are involved; his happiness very much involved. Honor her condition. The courage of the woman in child-bearing.

10. The picture of a womanly woman. A man resents discourtesy to his wife, and expects to protect her from it. The gentleman is ready to protect any woman if there be need.

11. The face of a woman of intellectual attainments. The peculiar effectiveness of female intelligence. Some men sneer at women through misunderstanding. The folly of presuming on one's own wisdom simply because of being a man. The injustice of forcing one's views by resort to physical strength.

12. A group of women who have rendered public service. Their intelligence, being feminine, saw more clearly the public good.

13. A man and a woman together in discussion. Together, they make the complete intellectual life.

14. The conceit of the boy. A boy's face, typical sneer. He thinks his mother does not know anything. It is his narrow range of interests that gives him his impression.

15. A fine mother's face and figure. The mother who has brought one into being through suffering, and nurtured one during childhood, and trained one out of baby ignorance, is always to be shown sincere respect and courtesy. This is the law of manhood.

16. A group of women at an afternoon tea. Respect and courtesy to your mother's women friends. If they like the tea and the chat, that is their right. They have done their work in the world, and are worthy of a boy's attention. The daughters of these mothers may interest you later. Each woman has her man who, if he knew you were willing to show courtesy, would teach you manners. Respect and courtesy to all women is the law among men.

CONCLUSION.

1. A group of college girls. Most of these will marry. Full development during youth is important. The physical is essential, but the character and the intelligence are also essential. They may bring to marriage the qualities that make the home a sacred place.

2. A group of college boys. If they have "a man's honor toward women" they will bring to marriage a healthy body and a soul unsullied by prostitution. It is their right to realize the ideal marriage and to have a home worthy of the human soul.

3. A group of portraits of members of some family that for several generations has done good work in the world.

Example, the Adams family:

John Adams, 1735-1826.

John Quincy Adams, 1767-1848.

Charles Francis Adams, 1807-1886.

John Quincy Adams, 1833-1894.

Charles Francis Adams, 1835-

Henry Adams, 1836-

The laws of life have to be obeyed, for it is on physical life that the life of the soul rests. A boy should take a long look ahead, and exercise the self-control which wisdom, from experience, dictates.

4. The "Code" in a transparency.

A MAN'S HONOR TOWARD WOMEN.

The Code in Vogue Among True Men.

- I. Be continent in your youth.
- II. Prepare for marriage by purity of mind and body.
- III. Realize the ideal marriage.
- IV. Be true to your home.
- V. Bring up the children healthy, intelligent and righteous.
- VI. Be respectful and courteous to all women.

SEWAGE AND SEWAGE DISPOSAL.*

By C. W. G. Rohrer, M.A., M.D., Ph.D.

Baltimore, Md.

INTRODUCTORY.

ONE of the "signs of the times" is the renewed interest which the public at large is taking in health problems. This awakening of public-health sentiment, this "feeling of brotherly love," this "love-thy-neighbor-as-thyself" spirit, has been manifest in every age to a greater or less extent. It has been bequeathed to us as our rightful heritage. Turning to the pages of biblical history, we ascertain that Moses was not only a great leader and a great prophet, but a great hygienist as well. In the New Testament the Son of Man Himself appears as the Great Physician.

As I have just indicated, every age has its Moses or inspired prophet. We need but point to Hippocrates, the "Father of Medicine;" to Æsculapius, or to Aristotle, or to Pliny. Coming down to our own times, we have Jenner, the discoverer of vaccination; Lord Lister, the father of antiseptic surgery; Pasteur, the founder of the science of bacteriology, and Robert Koch, the discoverer of the tubercle bacillus or germ of consumption.

To Pasteur and Koch we are indebted for much that we know concerning the subject which confronts us tonight, namely, that of sewage disposal. Pasteur's great work on fermentation formed the stepping-stone to bacteriology—the science which treats of bacteria or germs. Pasteur proved that some germs are very necessary and harmless, while others are disease-producing and dangerous. When Robert Koch demonstrated that boiling the polluted waters of the Nile River, used for drinking purposes, would prevent the spread of cholera, he unconsciously blazed the way for the work which concerns the Park Heights Improvement Association tonight. Koch also demonstrated that filtration is decidedly advantageous, though not quite so efficacious as boiling. These few introductory remarks now bring us to the subject in hand.

DEFINITIONS.

Well might we ask the question, What is a sewerage system? I shall define the term piecemeal. Briefly stated, a sewer is a public drain. A sewer may be open or closed. The former, that is, an open sewer, is barely worthy of the name it bears; indeed, it oftentimes becomes a menace to health. An open sewer may be defined as a sewer of which the channel is open to the air instead of being concealed under ground or covered in.

*Remarks made at the meeting of the Park Heights Improvement Association, held at Pimlico, Baltimore county, Maryland, Saturday, November 5, 1910, 8 o'clock P. M.

However, in the general acceptance of the term we mean a closed sewer, which is a drain or passage to carry off water and filth under ground. By "sewage" we mean waste matters, human excretion, etc., such as is ordinarily removed by means of sewers. To be more explicit, sewage is a complex liquid, consisting of the liquid excretions of the inhabitants; the foul waters from the kitchens, containing vegetable and animal matters, bits of fat and other refuse; the "suds" from the washing of dirty linen, cooking utensils and the people themselves, holding in-solution and suspension soap, fatty acids and the exudations from the human skin. Then there is the dirty water from the washing of floors, the swilling of yards, the solid and liquid excretions of animals in the streets, the drainage from stables and pigpens, the blood and other animal matters from slaughter-houses, silt from street sweepings, and in the case of watercloset towns, in addition to the above polluting matters, there are the solid excreta from the inhabitants, paper and other matter of a like nature emptied through the closets into the sewers. As a rule, the surface water from the streets and from the yards and a certain amount of ground water finds its way into the sewers.

I have defined the word "sewer" and the word "sewage;" it yet remains for me to define briefly the term "sewerage system." "Sewerage system" is the term applied to a system of sewers designed to carry away the filth of a community, or of pipes for carrying away the waste matters from the separate buildings.

WHAT CONSTITUTES A SEWERAGE SYSTEM?

A modern sewerage system, full and complete, consists of:

1. A series of underground conduits or pipes.
2. Terminal canals or pipes leading to some natural body of water used for purposes of sewage disposal, or
3. A sewage-disposal plant, consisting of septic tanks and filtration beds.

The latter method, a sewage-disposal plant, is certainly the most sanitary. Discharging its sewage upon the surface of the ground is accompanied by many dangers, as is also the case when sewage is discharged into streams or other bodies of water. The fate of the city of Cumberland, this State, is an illustration of the dangers attendant upon the use of a stream for drinking purposes in which raw sewage is permitted to enter. The people of Cumberland drink the polluted waters of the North Branch of the Potomac River. As a result, there were 92 cases of typhoid fever reported in Cumberland in the month of September. It should be added that Cumberland is rapidly taking the necessary steps to correct this undesirable condition.

NEED OF A SEWERAGE SYSTEM.

If, for nothing else, the citizens of this community need a sewerage system to reduce the number of cases of typhoid fever. You

have recently passed through quite an extensive outbreak of typhoid fever. On Friday, October 7, I obtained records of 33 cases of typhoid fever in Arlington, in Pimlico and vicinity.

Doubtless you are prepared to ask, What was the cause of this extensive outbreak of typhoid fever? This question can be answered in two words: Defective drainage. My observations convinced me that the milk supply, which had been strongly suspected, had but little to do with the typhoid-fever situation in this section of the Baltimore suburbs. On Belle avenue I explained the typhoid-fever outbreak as due largely to the drinking-water supply, which had been allowed to accumulate, by reason of the protracted drought, in the dead end of a Baltimore city water pipe. This stagnation of the water supply gave the typhoid bacilli ample opportunity to increase and multiply to an alarming extent. Had the residents of Belle avenue heeded Dr. Bosley's repeated and urgent request, "Boil your drinking water," this unfortunate outbreak of typhoid fever would not have occurred.

Concerning Pimlico and nearby places, I found the bulk of the disease confined to persons who used shallow wells, unprotected from surface drainage. The drainage was so visibly bad that even the people themselves commented upon it. It did not take a physician, a health officer or a Caroline Bartlett Crane to make this observation. Stagnating sewage, watercloset refuse and filth and debris of every description met the eye at every turn. Nor were foul odors difficult of detection.

This obvious lack of sanitary drainage caused the aforementioned surface wells to become infected, much to the sorrow and suffering of those using the water. The dry spell of weather caused the height of the ground water to fall. By ground water we mean, in Scriptural terms, the "waters under the earth." The ground water is the main source of supply in shallow-dug wells. The low state of the ground water caused the seepage of the subsoil stratum to be drawn upon.

What does the subsoil stratum of these badly-drained communities contain? Practically everything that is undesirable and prejudicial to health. The soil is the great repository of all bacterial life. It has been thoroughly saturated with sewage, toilet refuse, animal excreta, and all sorts of filth and waste material.

Taking these facts into consideration, I heartily recommend the installation of a sewerage system in this delightful county suburb. There would be a great saving of human suffering and many lives would be saved annually by such a project. In the counties of Maryland alone in the year 1909 there were 350 deaths from typhoid fever. The financial value of an adult human life has been placed at \$5000; consequently the loss to the State occasioned by typhoid-fever deaths alone is \$1,750,000 annually.

The large number of gastro-intestinal diseases in infants should

also be considered. Many of these can be traced to defective drainage and contamination by means of flies. An infant is a bundle of possibilities and its value cannot be estimated in dollars and cents. In the month of August, 1908, there were 207 deaths from cholera infantum in the counties of Maryland, or an average of seven deaths in a day.

THE REMEDY.

What shall we do to mitigate these evils? I believe the first step to be taken by the people of this community is the introduction of the proposed sewerage system. Other towns and cities have done as much. Crisfield, Somerset county; Centreville, Queen Anne county, and York road and Govanstown, this county, may be cited as examples. Easton, Talbot county, is at the present time considering the installation of a complete and up-to-date sewerage system. Baltimore, the "Monumental City," under the shadow of whose wing we are glad to nestle, is now putting in a \$20,000,000 sewerage system. Lauraville and Hamilton, your sister suburbs, are seriously contemplating the same step.

CO-OPERATION OF IMPROVEMENT ASSOCIATIONS WITH BOARDS OF TRADE.

It would be well for the various improvement associations to co-operate with the Board of Trade. On October 27 I was highly gratified to read the following in the great Baltimore dailies:

"The newly-organized Maryland Associated Boards of Trade formally adopted a resolution calling attention to the great importance to health and life of the inhabitants of the cities and towns of Maryland, and to the fact that the disposal of sewage and refuse from factories into the streams endangers the health and the life of the neighboring towns using their water supply.

"The resolution was adopted, and the association went on record to co-operate with the State Board of Health and use its influence to better protect the people of Maryland from preventable diseases by urging the establishment of a sanitary sewerage system in its cities and towns, such sewerage to be equipped with suitable disposal plants."

But my gratification reached fever heat when I read the following in the Baltimore *American* of October 29:

"Residents of the territory between Mount Washington and Pikesville perfected their final plans for the immediate construction of a new sewerage system, a boulevard and a sewage-disposal plant to be built in that section at an estimated cost of \$400,000."

In conclusion, I wish to thank Mr. Spencer for the invitation to be present tonight. I also wish to thank you, one and all, for your kind attention, and bid you godspeed in your most worthy, commendable and necessary enterprise.

Book Reviews.

STUDIES IN CARDIAC PATHOLOGY. By George William Norris, A.B., M.D., Associate in Medicine at the University of Pennsylvania; Visiting Physician to the Episcopal Hospital of Philadelphia; Assistant Visiting Physician to the University and to the Philadelphia General Hospitals; Physician to the Medical Out-Patient Department of the Pennsylvania Hospital; Fellow of the College of Physicians of Philadelphia, etc. Large octavo of 233 pages, with 85 original illustrations. Cloth, \$5 net. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1911.

From beginning to end the interest of the reader is held, and the book will for years stand as an authority on the subject under consideration. Acute endocarditis, chronic endocarditis, diseases of the aortic orifice, of the mitral orifice, of the tricuspid orifice, or the pulmonary orifice, acute pericarditis, chronic pericarditis, cardiac hypertrophy, cardiac dilatation, cardiac aneurysm, cardiac syphilis and congenital lesions are one and all thoroughly discussed from their pathological aspect. It is an epoch-making contribution to medical literature, and any man would be proud of being its author. The illustrations are works of art, and materially add to the attractiveness of the volume. The illustrations were obtained from specimens in the collections of five of the largest hospitals of Philadelphia. The writer claims, and justly so, that the production of an acute endocarditis is always due to the presence of pathogenic organisms following injury to the endocardium by mechanical, toxic or chemical action, and that our inability to detect the organisms in every instance is due to imperfect technic or the disappearance of the germs after the lesion has been produced, or that we are dealing with as yet undiscovered microbe. He is therefore forced to conclude that acute and ulcerative processes of the endocardium are infections in origin. He is of the opinion that at present a satisfactory classification of acute infectious endocarditis does not exist. A division into simple and infective is fallacious, since in all probability every case is infectious in origin. According to the author, pneumonia heads the list as a causative factor in the production of endocarditis, and is twice as common in women as in men. He also states that pneumococcus endocarditis is apt to be rapidly fatal. Chorea is another disease which he states has been added to the list of infectious diseases as a common cause of endocarditis, and the importance of the gonococcus has been justly emphasized as a frequent causative agent. He finds true tuberculosis endocarditis distinctly rare.

According to the author, primary neoplasms of the heart are extremely rare, there being no such cases among the 9940 autopsies studied by the author, nor among 3000 reviewed by

Thorel. Link has only been able to find recorded in the literature 91 cases of primary heart tumor.

As stated in the beginning, those interested in the scientific aspect of cardiac affections from a pathological standpoint will extend to this endeavor a very cordial reception.

THE CARE OF THE BABY. A Manual for Mothers and Nurses. Containing Practical Directions for the Management of Infancy and Childhood in Health and in Disease. By J. P. Crozer Griffith, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital; Consulting Physician to St. Christopher's Hospital for Children; Member of the American Pediatric Society, and of the Association of American Physicians; Corresponding Member of the Société de Pédiatrie of Paris. Fifth edition. Thoroughly revised. 12mo of 455 pages. Illustrated. Cloth, \$1.50 net. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1911.

The issuance of the fifth volume of this book is fact enough of its sustained demand and a warranty of its need and usefulness. Our notions concerning many of the affections of childhood and infancy have markedly changed since the last edition of this book, which has necessitated many changes to bring it up to date. The book, as heretofore, is written in a popular vein, so as to provide mothers with a reliable guide in case of sickness, and the maintenance of health in their offspring. The first chapter is devoted to the hygiene of pregnancy, and the rest to the various aspects of the proper raising of the baby. A book of this character can do the physician nothing but good, for it educates the mother to the necessity of consulting the physician when any danger signal arises. It also teaches her a right understanding of the proper methods of raising her offspring, and what to do in case of an emergency. Nurses in training and graduates will derive much helpful information from a careful reading of this book. We predict for the present edition as great a success as its predecessor enjoyed.

WHAT TO EAT AND WHY. By G. Carroll Smith, M.D., of Boston, Mass. Octavo of 310 pages. Cloth, \$2.50 net. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1911.

We are beginning to realize today that pure air, exercise, baths and proper attention to the organs of elimination play a much more vital part in the maintenance of health and the restoration of health than the making of an apothecary shop of the stomach; therefore, any communication which throws proper light on the proper dieting for the various maladies to which the human being is subject is particularly welcome. Much can be done, and much

is being accomplished, by right feeding, and the day is not far distant when every medical college of any standing will have a chair on dietetics. It is a well-known fact that the body can be poisoned by an oversupply of a given element of food as readily as by any of the alkaloids. On the other hand, the body may be suffering from a lack of a needed constituent, mineral, carbohydrate, fat or proteid. These are the problems which concern the dietician, and the man who throws any light on the subject has conferred a benefit on humanity. As the author justly states, what enters into a man does him good or harm. We heartily agree with the statement that the food problem in most of the chronic diseases is more important than all the other factors combined. According to the author, the feeding of proteins in excess does not clog the kidneys and liver, as generally taught, and the experience of sanatoria bear out this observation. The author's contention that the drinking of water to excess is a bad practice is borne out by our experience. It increases the volume of blood in the circulation, overworks the heart and increases the blood pressure. As regards the use of alcohol, the writer says:

"When given in varying quantities for an indefinite, uncertain period up to 30 years, it is a frequent cause of arteriosclerosis. It is a local irritant to the stomach, and frequently causes a catarrhal gastritis. It accelerates the circulation and lessens excitability of the nervous system. It is therefore an anesthetic of considerable power. Under its influence one feels less keenly or not at all physical or mental insults. It banishes the feeling of fatigue, depression and despondency, and substitutes a sense of well-being and comfort. The foregoing action of alcohol applies to excessive amounts, and the natural inference is clear one should never take it except as a medicine, and then it is only needed to bridge over the end of acute diseases."

Taken as a whole, the author shows a keen insight into the field of dietetics. He handles his subject well, and, whilst nothing new or startling is added to our knowledge of dietetics, still he tells his story in such a simple, uncomplicated manner that students and beginners in the field of metabolism will derive much benefit from a careful study of this book. By doing so they can obtain a very good idea of the principles underlying feeding, and the proper foods to give in the several diseases to which the body is heir. They will find chapters devoted to obesity, emaciation, diabetes mellitus, gout, heart disease, kidney affections, lung diseases, intestinal maladies, tuberculosis, nervous diseases, maladies of the liver, nervous affections, diseases of the blood, etc. The purchaser will not regret the acquisition of this book.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially Prepared Original Articles. Vol. 2. Twenty-first series. 1911. Philadelphia: J. Lippincott Company.

This volume is of unusual interest to the general practitioner.

Among the articles presented are two of note on intestinal conditions; one by Dr. Turck of Chicago on "Diseases Produced by the *Bacillus Coli Communis*." It seems that this bacillus, while always found in the colon, is a beast of very uncertain temper, whose nature is essentially vicious, which, though on starvation diet, it may purr softly, yet under certain condition of food and lessened body resistance, may show the most deadly qualities. It appears to be able to set up almost any kind of enteric malady all by itself. Its worst is indistinguishable chemically from typhoid, cholera and dysentery.

Treatment of various sorts is carefully analyzed.

In another article, by Drs. Julius Friedenwald and T. F. Leitz, on "Intestinal Antisepsis," it is concluded that salol, salicylate of bismuth and lactobaciline are the intestinal antisepsics least disturbing to stomach functions.

Other interesting articles are those on "Chronic Cystitis in Women," by Beye; "Intravenous Administration of Salvarsan," by Thomas, in which he holds that in most cases both mercury and salvarsan are needed, and "Progress in Tuberculosis Campaign," in which Dr. Flick of Philadelphia recommends the treatment of tuberculosis in isolated general hospital wards.

PRINCIPLES AND PRACTICE OF MODERN OTOLGY. By John F. Barnhill, M.D., Professor of Otology and Laryngology, Indiana University School of Medicine; Otologist and Laryngologist to Deaconess and State College Hospitals, etc., and Ernest de Wolfe Wales, B.S., M.D., Clinical Professor of Otology, Laryngology and Rhinology, Indiana University School of Medicine; former Assistant in Otology, Harvard Medical School; former Assistant Aural Surgeon, Massachusetts Charitable Eye and Ear Infirmary, etc. With 314 original illustrations, many in colors. Second edition, thoroughly revised. Baltimore: The Medical Standard Book Co. Philadelphia: W. B. Saunders Company. Cloth, \$5 net; half morocco, \$7. 1911.

"Modern Otology" is about the most meritorious book of its character which has fallen within our hands in some time. The fact that the reading physicians demanded a second volume attests its popularity and usefulness. Amongst the most important additions are the chapter on the examination of the function of the ear, which has been entirely rewritten, and includes the description and formula of a uniform system of tests accepted by the Eighth Otological Congress at Budapest in 1909; a more extended statement regarding operative injury to the facial nerve; a description of the conservative radical mastoid operation, commonly called the Heath operation; several paragraphs relating to the symptoms, pathology and surgical treatment of labyrinth suppuration. The subject has been completely modernized and the contents brought strictly up to date. This has become necessary owing to the many

recent changes in the specialty of otology. From beginning to end one is struck with the personal element entering into the text. Everywhere the reader is impressed with the fact that the authors are writing from personal experience, and not producing merely a digest of others' work. Everywhere one is impressed with the importance of early and accurate diagnosis if the patient is to receive the benefit of the best treatment. The ear is a mighty important organ and is subject to many and diverse affections, many of which, if improperly diagnosed or treated, are followed with dire results to the patient. Therefore, a strictly modern textbook on the subject is to be welcomed, especially if it does as this one in emphasizing the fallacies of such old-time notions such as the belief that children will outgrow aural affections, etc. The sections on treatment are full and explicit; on diagnosis, treatment and prognosis in accordance with modern ideas. The text is printed on excellent paper and is illuminated with many cuts, some colored, of more than ordinary merit. The volume should be on the shelf of every physician.

PRACTICAL CYSTOSCOPY AND THE DIAGNOSIS OF SURGICAL DISEASES OF THE KIDNEYS AND URINARY BLADDER. By Paul M. Pilcher, A.M., M.D., Consulting Surgeon to the Eastern Long Island Hospital; Late Surgeon to the German, Seney and Samaritan Hospitals of Brooklyn, N. Y.; Associate Surgeon to St. John's Hospital of Brooklyn; Attending Cystoscopist to the Jewish Hospital of Brooklyn. With 233 illustrations, 29 of them being in colors. Octavo of 938 pages. Cloth, \$5.50 net. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1911.

The direct examination of the bladder by means of the cystoscope has attained such a degree of efficiency that every practitioner of medicine should be acquainted at least with what may be expected from the use of this instrument. It is this with which the above-mentioned volume is concerned. Starting with the indications for the use of the cystoscope, the author successively details the types and construction of European and American cystoscopes, the direct examining cystoscope, the indirect examining cystoscope, the ureter catheterizing cystoscope, care of the instruments, preparation for a cystoscopic examination, conducting an examination, observation and orientation of the bladder. He then passes on to the technic of ureter catheterism, both with the direct and indirect cystoscope; ureter catheterism through open endoscopic tubes, the diagnostic value of ureter catheterism. He then considers in order the diagnosis of the diseases of the bladder, prostate, ureter and kidney, and the part played by the cystoscope in arriving at a correct conclusion. The book is thoroughly illustrated, and a model of its kind. The objects and the methods of performing cystoscopy and ureteral catheterization are simply but fully stated. Dr. Pilcher is on the right track in endeavoring

to get the physician acquainted with the scope of the cystoscope both in diagnosis and treatment, and it is our conviction this book will play its part in this education.

GONORRHEA IN THE MALE. A Practical Guide to Its Treatment. By Abr. L. Wolbarst, M.D., Consulting Genito-urinary Surgeon, Central Islip State Hospital; Visiting Genito-urinary Surgeon, People's Hospital, West Side German Dispensary and Beth Israel Hospital Dispensary; Professor of Genito-urinary Diseases, New York School of Clinical Medicine; Member of American Urological Association, etc. Published by the International Journal of Surgery Co., New York. Cloth. 1911.

One is impressed with the fact that this book is written for the general practitioner, and not the specialist. Everywhere are hints of the greatest value. It goes very thoroughly into the subject for a book of its character, and the writer has the faculty of making plain to his readers the subject under discussion. One is decidedly impressed with the importance given to differential diagnosis. Indeed, this is one of the important features of the book. What the general practitioner is most concerned with, however, is the curing of his patient, and here is to be found in simple English the latest word on this subject. The book is modern and thoroughly reliable. It is fairly well illustrated, and printed on good paper.

A TEXTBOOK OF MEDICAL DIAGNOSIS. By James M. Anders, M.D., Ph.D., LL.D., Professor of the Theory and Practice of Medicine and Clinical Medicine, Medico-Chirurgical College of Philadelphia; Officier de l'Instruction Publique, etc., and L. Napoleon Boston, A.M., M.D., Adjunct Professor of Medicine, Medico-Chirurgical College; Physician to the Philadelphia General Hospital; Pathologist to the Frankford Hospital. With 418 illustrations in the text and 25 plates, 17 of them in colors. Octavo, 1195 pages. Cloth, \$6 net; half Morocco, \$7.50 net. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1911.

Long years of actual experience in writing and contact with patients particularly well fit Drs. Anders and Boston to the task which they have undertaken. The writings of Dr. Anders are too well known to need laudation, and there is not the least doubt but that this last effort will be hailed as his greatest contribution to medical literature. The style is the same easy flow of language which distinguishes his former writings. The presswork is excellent, and the illustrations, many of which are colored, are works of art. Every page bears evidence to the thoroughness and painstaking efforts which have made the authors famous. We predict for it as great a popularity amongst students and practitioners as

Anders' "Practice of Medicine," as nothing in the way of medical diagnosis seems to be neglected. The book is indeed a monumental product, and is bound, owing to its small cost, to jump into immediate favor. The arrangement of the various subdivisions is logical, and bridges the gap from one system to another with the least possible jar. The volume is freely punctuated with diagnostic tables, which will be found of invaluable aid to the reader. One is struck in reading this book with the emphasis which the author places on the laboratory aids, both chemical, macroscopical and microscopical; also on the employment of the various apparatus of precision, so that the diagnostician may arrive at scientific diagnosis, and not on guesswork. Here are to be found the latest developments in diagnostics which have been accepted by the best clinicians as practical and useful. We are well aware that there are many good books on diagnosis on the market, and the question may be asked, "Why this one?" The answer is, "Methods of examining the patient are constantly changing, new apparatus are daily being accepted into the routine practice and old technic is being discarded." These are sufficient reasons for the appearance of the present volume, and we feel they are good and sufficient. There is need for just such a volume, and the thoroughness, clearness and brevity with which the authors handle their material will appeal to the general reader.

HOSPITAL MANAGEMENT. A Handbook for Hospital Trustees, Superintendents, Training School Principals, Physicians and All Who Are Actively Engaged in Promoting Hospital Work. By Charlotte A. Aikens, author of "Hospital Training School Methods and the Head Nurse"; "Primary Studies for Nurses"; "Clinical Studies for Nurses." 12mo of 488 pages. Illustrated. Cloth, \$3 net. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1911.

This book is absolutely indispensable to those engaged in hospital work. The manager, the resident physician, the medical superintendent, the superintendent of nurses, the trustee, all alike will find in this volume innumerable valuable suggestions in the systematizing and simplifying of their work. The volume is edited by Charlotte A. Aikens, and contains articles on every aspect of hospital management by eminent authorities in their lines, among whom may be mentioned Charles Phillips Emerson, superintendent Clifton Springs Sanitarium, New York; Henry Mills Hurd, superintendent John Hopkins Hospital, Baltimore; Edward Fletcher Stevens, hospital architect, Boston, Mass.; Warren L. Babcock, superintendent Grace Hospital, Detroit, Mich.; Renwick R. Ross, superintendent Buffalo General Hospital, Buffalo, N. Y.; Clarence W. Williams, engineer specialist in hospital heating, ventilating, etc., Boston, Mass.; Frank T. Fulton, consulting pathologist and visiting physician to Rhode Island Hospital, Providence; Thomas

Howell, superintendent New York Hospital, New York, and Charlotte A. Aikens, Detroit, Mich.

A book of this character is greatly needed, and will be found of inestimable value in promoting hospital economies, and will create a better understanding of the principles which underlie successful hospital administration. Those laboring in the management of a struggling hospital will find the present volume well calculated to lessen those burdens, and to suggest a method of overcoming difficulties. There should be no necessity of the reviewer urging its procural by hospital authorities, for everyone interested in the successful operation of a hospital should need only the bare mention that such a book is on the market.

MANUAL OF DISEASES OF THE EAR, NOSE AND THROAT. By John Johnson Kyle, B.S., M.D., Professor of Otology, Rhinology and Laryngology, Indiana University School of Medicine; Otologist, Rhinologist and Laryngologist to the City Hospital, St. Vincent's Hospital and City Dispensary, Indianapolis; Fellow of the American Academy of Ophthalmology and Oto-Laryngology and Fellow of the American Laryngological, Rhinological and Otological Society; Member of the Association of Military Surgeons of the United States; Late Major and Surgeon, United States Volunteers; First Lieutenant, Medical Reserve Corps, United States Army. Third edition. Revised and enlarged. With 176 illustrations. Leather, \$3 net. Philadelphia: P. Blakiston's Son & Co. 1911.

This book is no more nor less than it pretends to be—a manual of the diseases of the ear, nose and throat—but it is one of the very best of its kind which we know. The author, from his experience as a teacher, seems to divine intuitively what a student or general practitioner needs in these kindred subjects, and to have the added faculty of putting this knowledge into entertaining language. The present edition is not only much larger than its predecessors, but also more complete and thorough. The illustrations are numerous and well adapted to the text. The description of operative technic is full, modern and plainly stated. Added attractiveness is given the volume by the inclusion here and there of formulas found useful by the author. We are extremely sorry that the book went to press too soon to include the writer's experience in the treatment of lues with dioxydiamidobenzol, but he included in the text Wechselmann's conclusions, which to a slight degree compensates for the deficiency. The commoner diseases and affections of the ear, nose and throat receive abundant treatment for a book of this character, and the rarer maladies come in for a word or so. The chapters devoted to the diseases of the accessory sinuses of the nose are full, comprehensive and illuminating. We are sure the present edition will be accorded as popular a reception as the former.

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BALTIMORE, AUGUST, 1911

DECAPSULATION OF THE CAPSULE IN CHRONIC BRIGHT'S.

TWELVE years ago, writing in the *Medical News*, Dr. George M. Edebohls reported six cases of chronic nephritis in which he had performed nephropexy for the purpose of anchoring a movable kidney, in four of which he was greatly surprised by the complete and permanent disappearance of albumen and casts from the urine and the restoration of enduring and permanent health. These results led him to advocate the decapsulation of the kidney in chronic nephritis. As favorable results as above mentioned have not been obtained by others, and the operation has been relegated to the waste pile by most surgeons. Tyson, however, in the *Medical Record* of July, 1911, reports four cases which have been under his care and upon whom the decapsulation operation has been done with apparent benefit. In each instance the patient was in extremely bad condition and on the point of death, and in his opinion was only saved by renal decapsulation. He states that in no one instance was a complete cure affected, for in none did the albumen completely disappear from the urine, notwithstanding the hale and hearty appearance of the patients at certain stages after the operation. These results are not as favorable as those of Edebohls, who reported 43 survivals with fourteen ideal cures out of 72 cases operated upon, the interval between the operation and last observation ranging from 7 months to 11½ years. Three others he classes as practical cures, and describes the urine as practically normal. Of Tyson's cases, two lived and two died, one shortly, the other a year, after operation. The latter was doing nicely until exposed to inclement weather while going to school, as a consequence of which she relapsed and died. The other two cases have only done fairly well, but are still alive and enjoying reasonable health. Unlike many others, Dr. Tyson does not think the operation of no service whatsoever, even though he can report no cures, and is of the opinion that it should be resorted to more frequently. The conditions de-

manding it are persistence of symptoms endangering life or causing excessive inconvenience (obstinate dropsy which fails to yield to treatment, uremia, anuria, large albuminuria, loss of strength, persistent hematuria, etc.). Dr. Tyson, however, earnestly pleads that operative interference be chosen only after medicinal treatment has proven ineffectual. Those over 50 years of age can only hope for partial relief with the utmost certainty of relapse; therefore, in this class operation is not recommended.

Though the selection of improper cases has given this operation a black eye, there is no doubt that it has been followed by the most brilliant results in some instances and has its field of usefulness.

MOBILIZATION OF ANKYLOSED JOINTS.

MOBILIZATION of joints more or less ankylosed has lately been receiving considerable attention from the surgeon. It is therefore well to briefly discuss what can be expected in this line of affections. For many years observers have noted that in some instances fractures failed to unite, owing to the interposition of foreign material between the fragments, but until recent times it did not occur to them that the same process might be employed for the purpose of mobilizing ankylosed joints. John B. Murphy of Chicago was one of the first surgeons of this country to point out the way in this line of surgical effort, and through his example and teachings has widely disseminated the scope of operative interference along this path. He has so perfected the technic that no matter how long the joint has been stiffened, a movable joint may be expected. Scientists have determined that muscle, fascia, fat, etc., when interposed between raw surfaces of bone undergo degenerative changes and assume the nature and functions of synovial membrane, making it impossible for the denuded bones to unite with each other. Codovilla, Baer and others have also been leaders in arthroplastic surgery. Their methods differ somewhat from Murphy's, but have the same object in view, namely, mobilization of a stiffened joint. Ankylosed elbows and knees have been the principal joints selected for mobilization, and have yielded excellent results. The technic consists in cutting away the binding tissue and shaping the several constituents of the joints as near as possible to their original contour. Then a piece of fat, muscle or fascia, or even foreign material, is inserted between the surfaces thus bared. The results have been remarkable, many useless joints having been restored to usefulness.

Medical Items.

DR. JOSEPH BURR PIGGOTT has resigned his position as superintendent of the University Hospital to take up private practice in Grafton, W. Va. He will be succeeded by Dr. William Joseph Coleman, now assistant superintendent.

THE usual summer exodus of physicians has begun. Dr. Clement A. Penrose is at Nantucket Island; Dr. William Hewson Baltzell has just returned from an European trip and is in Wellesley, Mass.; Dr. J. Moreley Hoag is on the Pacific Coast; Dr. I. R. Page is in Brookline, Mass.; Dr. J. S. Geraghty will remain at Jamestown, R. I., until September; Drs. Hugh Young, Emil Novak, Anton Rytina, Cary B. Gamble, William S. Halstead, W. A. Fisher, Frederick Taylor, Philip Travers and W. F. M. Somers are abroad; Dr. R. G. L. Lumpkin is at Blue Ridge Summit; Dr. Nathan R. Gorter is summering in Canada; Dr. D. C. R. Miller is on the Pacific Coast, and Dr. Richard Gundry is in California.

DR. ROBERT HOFFMAN, 1325 Park avenue, will go abroad in August.

DR. RANDOLPH WINSLOW has returned from a trip to California, where he attended the meeting of the American Medical Association.

DR. JAMES M. DELEVETT and DR. ALBERT T. CHAMBERS have been appointed members of the School Board to succeed Drs. J. M. T. Finney and J. M. Rowland.

DR. ARTHUR E. CANNON of 821 North Fremont avenue will take up practice in Spartanburg, S. C.

DR. WILLIAM DE FOREST OLSTEAD is ill at the Maryland General Hospital, suffering with typhoid fever. His condition is now reported to be favorable.

DR. G. TIMBERLAKE has been appointed clinical professor of genito-urinary diseases at the University of Maryland.

MARRIAGES.

CARLTON N. ETCHEISON, M.D., to Miss Rachel Dave Young, both of Gaithersburg, Md., June 15, 1911.

BERNARD O. THOMAS, M.D., University of Maryland, '05, of Frederick, Md., to Miss Margaret Bartholomew, at New Market, Md., June 22, 1911.

LAWRENCE J. SIMONTON, M.D., of Cumberland, Md., to Miss Ellen N. Kilgour of Rockville, Md., at Alexandria, Va., June 9, 1911.

PINCKNEY LEE DAVIS, M.D., University of Maryland, '88, of 900 North Fulton avenue, to Mrs. Grace Barker, at Philadelphia, July 20, 1911.

J. WILLIAM HARROWER, M.D., of Towson, Md., to Miss Eva M. Cooke of Kingston, Ont., at White Plains, N. Y., June 3, 1911.

NATHAN HERMAN, M.D., Louisville Medical College, '94, to Miss Sadie Loeb, both of Baltimore, July 9, 1911.

ALLEN COVERT BEETHAM, M.D., of Baltimore, to Miss Bertha Elsie Hewlett of Merrick, L. I., at Merrick, July 6, 1911.

T. VALENTINE WILLIAMSON, M.D., of Norfolk, Va., to Miss Mary Ada Wissler of Mt. Jackson, Va., at Harrisonburg, Va., July 12, 1911.

DEATHS.

J. M. HOLLINGSWORTH, M.D., College of Physicians and Surgeons, '86, died at his home in Mt. Airy, N. C., April 12, 1911.

JOHN A. FARREN, M.D., Baltimore Medical College, '93, of Chicago, Ill., was found dead at Hot Springs, Ark., June 1, 1911.

WILLIAM GEORGE FITZSIMMONS, M.D., Baltimore Medical College, '04, died at his home in Steubenville, Ohio, June 26, 1911, aged 26 years.

GEORGE WASHINGTON TRUITT, M.D., University of Maryland, '75, died at his home in Roland Park, Md., July 11, 1911, of paralysis.

CHARLES P. GILPIN, M.D., died at his home near Elkton, Md., July 5, 1911, of nervous breakdown, aged 55 years.

THOMAS H. WEST, M.D., University of Pennsylvania, '70, died at his home at Keyser, W. Va., July 12, 1911, of heart disease, aged 72 years. Dr. West was born in Swanton, Md.

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THE PREVENTION OF INEBRIETY.*

By *G. Milton Linthicum, A.B., A.M., M.D.*,
Professor of Physiology and Rectal Disease, Baltimore Medical College.

In undertaking to discuss this subject, I more than realize that my position is a difficult one, and trust you will pardon my shortcomings; and even though you may not have gained any knowledge from my efforts, you will feel repaid in that I assure you it has brought me closer to the great work in which you have so nobly labored, and with such success that I more than ever realize how important and far-reaching are its effects and how much is yet to be accomplished. It must indeed be gratifying to this society to see the wonderful results which, largely through your efforts, have been brought about, and I feel that you are on the edge of a great intellectual awakening as to the true significance of alcoholism. The fatalistic view held toward insanity and tuberculosis a few years ago was met by scientific investigation, which resulted in well-defined conclusions being evolved, together with clear, concise methods of dealing with these two diseases, formerly regarded as hopeless and incurable. No one now believes that a man or woman who is mentally sick is possessed of the devil and locked up, as in the days of yore, or, more recently, that his condition was beyond recovery; but instead, Bedlam and similar places, with their chains, belts and strait-jackets, have disappeared, and in their places well-equipped and properly-arranged hospitals, under the supervision of scientific alienists, have been provided by cities, States and counties.

The diagnosis of tuberculosis is now not regarded as signing of the death warrant, but instead it means, with our present knowledge of its cause, that the disease may be fought in every detail with weapons of precision and untold numbers of lives yearly saved and innumerable cases prevented. Knowledge is the only basis

*Read before the annual meeting of the American Society for the Study of Alcohol and Other Narcotics, Baltimore, April 19, 1911.

upon which we can build any form of disease treatment, and this knowledge can only be obtained by scientific medical investigation, and when conclusions that are valid are reached, they can be presented to the public in such forms as to be intelligible and acceptable, and we can then, and then only, expect the same co-operation of the public in this fight against inebriety as they have given in other lines of disease prevention. This co-operation is absolutely essential if results of prevention are to be accomplished, for any trouble which affects the whole people must be fought by the whole people, for the public, with their newly-awakened knowledge of sanitation and disease prevention, will no longer accept hysterical, prejudiced or exaggerated statements.

When we look over our country and see what enormous sums of money are invested in hospitals for the insane, homes for the poor and prisons for the criminals, and see how much of it is due to alcohol, which, according to the investigation of the Massachusetts Bureau of Statistics, whose figures are doubtless lower than the general average of States, 84.41 per cent. of crime, 48 per cent. of pauperism and 35 per cent. of insanity is due to alcoholism. Then, too, how many of the 2,000,000 syphilitics, which, according to Dr. Prince A. Morrow, exist in the United States, or, according to Neisser, of the 75 per cent. of the males who have gonorrhœa, or of the 500,000 cases of tuberculosis, are due directly and indirectly to alcohol? Does it not seem that we as physicians in treating and caring for the millions of unfortunates afflicted with insanity, syphilis, tuberculosis and gonorrhœa are doing as the profession formerly did—treating symptoms of the malady and not the disease?

We are daily urging legislation for the care of the insane, humane treatment for the criminal, sanitation for the care of the tubercular and pensions and homes for the poor, and have neglected the real disease—alcoholism. We educate the public toward specific disease prevention, but pay little attention to the primary cause of so many of the pathological states—namely, alcoholism. Is it not time that we arise to our duty and educate first the profession as to the true significance of alcohol, as to its value, or, rather, its harm, as a drug in the treatment of the sick and its effect upon the healthy?

I have urged in the past the establishment of departments of hygiene in medical schools; I would urge further that they be manned by scientists who realize the true nature of alcohol, so that the young men leaving the schools to take up our profession may have demonstrated to them that alcoholism is a disease, and as such must be so regarded and treated as did that wonderful medical patriot, Dr. Benj. Rush, more than a hundred years ago.

That there is an alcohol diathesis which is a suitable soil upon which the habit is as easily engrafted as is any disease when the germ is sown is believed today by those who have studied the subject, and must be recognized if we are to aid in the prevention of

inebriety. I feel that this conclusion is warrantable in spite of the recent results given out by Dr. Karl Pearson from the Galton Laboratory after his investigation of its effect upon the children of alcoholics, relative to parental drinking and environment. The conclusions arrived at, in short, are as follows: Hunger, filth, poverty and alcoholism, bad housing and other environmental evils do not produce effects upon the next generation.

While everyone appreciates with what care, exactness and trustworthiness this investigator works, yet I believe that wrong conclusions may be deducted from even correct data. In this instance his conclusions are based upon the results in early childhood, and not upon the ultimate effects in adolescent and early manhood, which should be the only fair way to compute the results. For, as it is shown by the investigation of Mr. Partridge in a series of 498 alcoholics, the greatest number occurred prior to the age of 20 years, and that in a series of 65 cases, all but four had taken the first drink before the age of 22 years, and 16 led all other ages. From this data it would seem that heredity and environmental influences are not manifest until the adolescent period, at which time the greatest stress is laid upon the nervous system. Adolescence has been described as a "pathological second birth," and, as Hall says, "the flood gates of heredity seem opened, and we hear from our remoter forbears and receive our life dower of energy."

At this time the love of excitement, the dislike for the monotones of life, the desire for the unusual, is most frequent. The development of the sexual instinct during this period is recognized as being in rapport with the higher mental evolution. It is recognized that the children of the uneducated who have received education, even in a primary way, have a greater tendency to alcoholism than did their fathers. Australia consumes more alcohol per head than England, although primary education is more prevalent in the mother country, which shows the effect of the extra strain thrown upon an unaccustomed nervous system.

It is evident, aside from these factors which have a tendency to demand stimulants and narcotics, that there is an inborn liking for intoxicants which is more intense in some than others. Indeed, in this respect inebriety bears a striking resemblance to other diseased conditions, as shown by its extreme virulence upon a primitive people, where its use has never been known; for example, the Maoris of New Zealand and the American Indians, and the greater forbearance to its effects as shown by the French, Russians and Germans, and the intermediate position of the Americans, apparently an immunizing effect is reached. Reid looks upon this inherited liking for alcohol as a "by-product," an accidental accompaniment of evolution. Kelynack suggests the possibilities of there being two kinds of products manufactured in the body, either as a result of intestinal or tissue metabolism, forming of hormones, which act as excitants or stimulants to the nervous system to arouse special activity; and on the other hand, in addition to these

nerve stimulants, the blood contains others having an opposite or depressing effect, these probably in the form of materials which are waste or toxic.

If, as he says, we assume that the blood normally contains intoxicating substances, we can readily explain the readiness with which a man takes to a substance which, like them, tends to call forth a sense of exuberant well-being and joyous emotion. Rylands accounts for the passion of drink on those who hate the taste of liquor and yet take it to excess by a condition of pathological unrest as a diseased and overpowering mental and physical uneasiness, which it is impossible to describe, but which demands relief even at the price of the trouble. In this connection it has often occurred to me as accounting for the taste of alcohol as an inborn taste, because of its normal production in the metabolism of dextrose, which is first converted into lactic acid and then oxidized into ethyl-alcohol and carbonic acid. This is further suggested by the fact that an excess of sugars in the diet lessens the desire for alcoholic drinks, while at the same time increasing natural thirst. Further, the people who live largely on fruits, nuts and vegetables with large starch components are freer of inebriety, the most notable example being the Japanese, while those whose diets are rich in meats and poor in starch have a greater percentage of alcoholics.

The researches of de Quervain, Sarbach and the clinical observations of Hertoghe show marked degeneration of the thyroids from the use of alcohol, and it is suggested that there is some relation between the secretions of those glands and the alcoholic craving. I think it is a safe conclusion that one can at least say that the lowered vitality of the nervous system or the lowered activity of the nerve elements are a cause for the disease, for those things which apparently stimulate, and the use of such, has a tendency, as an after effect, to destroy or depress the higher centers, which thereby again creates a need for nervous stimulation. That we have a vicious circle, poor health, generally produced either by disease or environment. Lack of food, excessive fatigue, mental and physical, create in the individual a desire for something, as it is generally termed, to stimulate his nervous system, and until this condition is alleviated by a building up of nutrition, so that the body stimulants or nervines are again normally produced, the individual will be unable to cope with his intense desires, and inebriety will result. The use of the term stimulant as applied to alcohol should be abandoned, as we recognize its effects are physiologically anesthetic and depressant; by so doing an educational thought must be conveyed to the public.

I have thus in a general way suggested my line of argument for the prevention of inebriety. The recognition by the physician and laity that inebriety is a disease, the true pathology of its effects being well recognized; that it has a definite cause, the nature of which is not as yet clearly understood, but which is believed to be

due to the lack of something necessary for the proper metabolic processes associated with nerve energy; a something, an internal secretion, if you will, which by the use of alcohol is destroyed in a healthy individual, just as excessive tissue stimulation will destroy itself, as shown by atrophied muscles when overworked, but normal physiological stimulation will increase its growth and normal metabolism; that a healthy, well-nourished individual will have a mental equipoise sufficiently strong to resist demands for further stimulation, as there is no urgent need, the appetite of the tissues is already satisfied.

Then one of the most important functions of the fight against inebriety is a propaganda of education of the people as to its cause, and as to the possibilities of cures resulting from proper treatment. There is no more important consideration to be undertaken by moral agencies than that of food and its preparation. I believe that a large per cent. of the inebriety among the poor may be charged to lack of proper food, and believe that soup, which is a chief constituent of their diet, which satisfies hunger for a time, but does not supply the tissues with sufficient food, is a prominent factor in the production of inebriety. The use of excessive meat diet and highly irritant food, with large waste constituents, of the well-to-do is a factor in this class of people. The lack of sunshine, air, food and exercise, normally and correctly obtained, are the essential elements of a pathological environment and a fertile soil for inebriety and other diseases. The detailed effect of these factors is well known to you, so I hasten on to mention one important phase of treatment and prevention of this disease; that is, the proper means of caring for the inebriate, which, by its relief, will prevent not only its increase, but will be the means of saving many of those already afflicted, namely, the placing of them in proper and suitable colonies or sanatoria especially devoted to their care, just as we now have places for the epileptic, the insane and tubercular. It appeals to me most strongly in this, my native State, where the Legislature has recognized two so-called methods of treatment and appropriated money for the care and treatment of cases, one of which is conducted by an unregistered physician; the other, a two-day-treatment concern. It is important that the people know that there is no one drug or specific for the cure of inebriety. That such cures are fakes of the worst sort, that the placing of something in the coffee or a two-days' injection or a two-weeks' injection, or as many months, will not bring about any lack of the desire for alcoholic drinks; that such treatments are only beneficial as far as the individual's general health is built up and the alcohol is withdrawn.

The report of the English Home for Inebriates indicates that at least one-third of all persons who have submitted to detention have been transformed into useful citizens, and a great many more have been materially improved. Your secretary, Dr. Crothers, found in his investigation that 35 per cent. of all cases remaining under

proper treatment one year were permanently cured. The committee on hospitals of the State Charities and Aid Association of New York strongly endorse and have urged the New York Legislature for the establishment of sanatoria and a proper board of examiners to pass upon such cases as to chronicity, length of commitment and other details. There can be no question in the mind of those who have given this subject any thought that this will be one of the most effective means of controlling this evil, and at the same time one of the most economical methods of dealing with a disease now treated by the law as a crime, with arrests, commitments and infinitum, throughout the lifetime of the individual. You are all familiar with the endorsements of such experts as Dr. Chas. L. Dana, Prof. Alex. Lambert, Dr. Wm. Osler, Dr. J. M. Anders, Dr. M. Allen Starn and many others too numerous to mention, who state that inebriety is a true disease, and its treatment is best conducted in hospitals and similar institutions.

That such colonies, if properly located and equipped, will be self-supporting in a few years is shown by the Craig Colony, with its 1200 epileptics, producing \$42,000 worth of produce. Such establishment of hospitals will at once indicate to the people that they have a disease to be dealt with, a disease which is curable in a large percentage of cases, and accordingly those who are sorely beset with this dread malady will enter there for treatment without that feeling of disgrace that they now feel.

This barrier of repulsion will be broken down, as it has been so rapidly removed in tuberculosis and mental diseases, which in the memory of the youngest of us recall with what persuasion people had to be induced to enter sanatoria for their treatment. It will remove from the homes of families fathers during their alcoholic period and prevent conception and the transmission of this tendency to the offspring.

As to the question of prohibitive laws, no one can deny that were it possible to remove alcohol from the reach of everyone, that it would not be used, but the laws do not seem to accomplish this end, but rather to set up a private bottle in the homes of those addicted, and to bring it closer and more familiarly to the young members of the family already tainted with the craving. Further, I cannot believe that we can have effective legislation unless it follows education. Those places which have voted dry have a tendency to recall and establish the saloon, because the people were not properly educated before the passage of such laws. Legislation must follow education, and not education legislation. The keyword of the prevention of inebriety must be education. Education of the child, education of the youth, education of the fathers and mothers, education of the medical student, of young doctors, of old doctors, the teachers and professors, and finally of our law-makers as to the true, scientific facts of alcoholism and inebriety, and then can we only hope to prevent inebriety.

SYMPOSIUM ON THE ADMINISTRATION OF THE STATE BOARD OF HEALTH, BUREAU OF COMMUNICABLE DIS- EASES.*

By C. W. G. Rohrer, M.A., M.D., Ph.D., Acting Chief.
Baltimore.

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First of all, it has been deemed advisable to reproduce that portion of the program having a special bearing upon the present paper.

SYMPOSIUM ON THE ADMINISTRATION OF THE STATE BOARD OF HEALTH.

SEPTEMBER 13, 1910.

1. Introduction, Dr. Marshall Langton Price.
2. Bureau of Bacteriology, Dr. William Royal Stokes.
3. Bureau of Communicable Diseases, Dr. C. W. G. Rohrer.
4. Bureau of Chemistry, Dr. W. B. D. Penniman.
5. Bureau of Vital Statistics, Dr. W. Frank Hines.†
6. The Food and Drug Act, Dr. Charles Caspari, Jr.
7. Legal Aspects of Public Health Administration, Mr. Wm. Pinkney Whyte, Jr.

I. INTRODUCTION.

On a certain occasion the late Mark Twain* began an address by saying: "Fifty years from now we shall all be dead—I trust." Mark Twain might have added: Twenty per cent. of us will die

*Paper read at the semi-annual meeting of the Medical and Chirurgical Faculty of Maryland, held at Annapolis on Monday, Tuesday and Wednesday, September 12, 13 and 14, 1910.

†This was the last paper contributed by Dr. Hines to the literature of his chosen profession. Just five weeks afterwards, Monday, October 17, 1910, at 10 o'clock P. M., Dr. Hines died of cirrhosis of the liver, after an acute illness of but two days' duration. He was 49 years of age.

*Samuel Langhorne Clemens, pseudonym, "Mark Twain." Born November 30, 1835; died April 21, 1910. A noted American humorist.

of transmissible, and therefore preventable, disease unless radical changes are made in our methods of hygiene and sanitation.

Prof. Irving Fisher[†] of Yale is responsible for the statement that 600,000 Americans die each year from preventable causes. He further states that there are always 3,000,000 Americans ill from diseases that might be prevented. In the counties of Maryland alone 2200 deaths annually result from preventable causes, and there are always 2800 persons ill with diseases that might be prevented.

II. DEFINITIONS.

A preventable or communicable disease is one whose means or method of transmission is at least fairly well known. To thoroughly know one's adversary is a positive advantage; hence a majority of the communicable diseases should readily be intercepted during their transmission, or even eradicated entirely. In a few of the communicable diseases we do not know the exact nature of the *contagium vivum*, but we do know the manner in which the infectious material is conveyed from man to man or from animal to man.

A communicable disease may be infectious or contagious, or both. By "infectious" we mean "due to a specific germ." By "contagious" we mean "transmissible by direct contact." Typhoid fever is an example of an infectious disease; scarlet fever and smallpox are highly contagious diseases, while pulmonary tuberculosis is both infectious and contagious.

III. COMMUNICABLE DISEASES.

The principal communicable diseases are some 15 or more in number, as follows: Tuberculosis, typhoid fever, scarlet fever, measles, whooping-cough, influenza, diphtheria, smallpox, chickenpox and mumps. German measles should also be mentioned. Typhus fever, yellow fever and cholera—terrible scourges in days gone by—need scarcely concern us at the present time. So far, bubonic plague has been confined to the Pacific Coast. Malaria has almost been stamped out of Maryland.

The various diseases due to external parasites are worthy of mention, likewise those diseases transmitted by domesticated animals and other animals and insects. During the last decade hook-worm disease has become of increasing importance. The same may be said of pellagra and of infantile paralysis.

IV. SUGGESTIVE LETTER.

Seven weeks ago the attached suggestive letter was received from Dr. O. N. Hoyt, superintendent and secretary of the State Board of Health of South Dakota:

[†]Bulletin of the Committee of One Hundred on National Health, being a Report on National Vitality, Its Wastes and Conservation, prepared for the National Conservation Commission by Prof. Irving Fisher of Yale University, member of the Commission, July, 1909.

Pierre, South Dakota, July 28, 1910.

STATE DEPARTMENT OF HEALTH,
Baltimore, Md.

Dear Sirs—Enclosed please find copies of Health Laws and Rules of South Dakota. There are no laws enacted yet as to tuberculosis.

Please allow me mention, in this connection, that I have received over a half dozen health reports from your City of Baltimore. I am thankful for them, and these give more deaths from measles than from scarlet fever, diphtheria and small-pox combined; and still Maryland does not see fit to quarantine measles. Why, please, is this so? We think that measles should be taken care of.

Very kindly,

(Signed) O. N. HOYT,
Superintendent State Board of Health.

Here in Maryland we still quarantine against smallpox, which I fully believe is the proper thing to do. Minnesota, North Carolina, Florida and several other States no longer resort to quarantine measures to restrict the spread of smallpox, but depend solely upon vaccination. If 219 cases of smallpox, as occurred in North Carolina in the month of June, 1910, or 214 cases, as occurred in Oklahoma in the month of May, 1910, were to occur in Maryland at one time, or even a proportionate number, I believe the exchequer of this State would be drained to its lowest limit. But measles, a disease which annually causes 70 deaths in the counties of Maryland (exclusive of Baltimore city), is permitted to go unquarantined and unhindered.

V. OTHER DISEASES.

Bright's disease, heart disease and apoplexy, a triad of diseases which annually carry off 3500 persons in the counties of Maryland, could largely be prevented, or their fatal effects indefinitely postponed, by avoiding the things which precipitate these maladies. An attack of infectious disease is very often the starting point.

It will readily be seen that the effects of an attack of communicable disease may be far-reaching. By no means does the injury inflicted always end with the disease itself. Ofttimes the complications and sequelae are even worse than the disease.

Take, for example, another disease which has lately sprung into importance. I refer to infantile paralysis, a disease but mildly contagious, which either terminates fatally or leaves its victim maimed for life in a majority of instances.

VI. ANTIQUITY OF COMMUNICABLE DISEASES.

The subject of which I speak is almost as ancient as the rock-ribbed hills. Smallpox, a communicable disease *par excellence*, was first described by Rhazes,* an Arabian physician who lived in

*Rhazes (850-923 A. D.) was a great Arabian physician, distinguished also as a philosopher and musician. Rhazes continued the work of Honain, a Christian Arab of Bagdad and one of the most renowned Hippocratic and Galenic followers of the ninth century. Rhazes advanced therapeutics by advocating a more extensive use of chemical remedies, such as mercurial ointments, nitric acid and sulphuric acid. He was also the first physician to describe smallpox and measles accurately.

the ninth century. I am proud to have in my library a copy of Rhazes' work on smallpox, and also his work on measles.

On June 24, 1735, Carolus Linnaeus,[†] the father of systematic botany, received the degree of doctor of medicine. His graduating thesis was entitled "A New Hypothesis Concerning the Cause of Intermittent Fever."

The germ theory of disease was first pointed out by Fracastorius in the year 1546. Tuberculosis was considered to be a manifestation of syphilis until the duality of the two diseases was promulgated by the Berlin health authorities in the year 1783. The contagiousness of puerperal fever was described by Dr. Oliver Wendell Holmes in 1843, and independently by Semmelweiss of Vienna in 1847.

VII. SUMMARY OF EPOCHS.

A "baker's dozen" of important epochs in the history and development of the germ theory of disease may thus be summarized, arranged in order of chronological sequence. It should be stated, however, that the following list is by no means complete. But each item contained therein stands out in bold relief among numerous others of less magnitude, serving as one of many guide posts leading to the then untillied field of modern bacteriology:

1. Description of smallpox and of measles by Rhazes at the close of the ninth century.

2. Recognition of the contagiousness of pulmonary tuberculosis by Avicenna (980-1037), the Arabian "Prince of Physicians," at the beginning of the eleventh century.

3. Publication of Fracastorius' work, "De contagione et contagiosis morbis et curatione," in 1546. Fracastorius^{*} divides infectious diseases into three classes as follows:

^{*}Carolus Linnaeus, "the immortal Swede," was born May 13, 1707, and died January 10, 1778. He was graduated from the University of Hardewyk in Holland, with the degree of doctor of medicine, in the twenty-eighth year of his age. Linnaeus is universally recognized as the founder of modern systematic botany and zoölogy. The publication of his *Systema Naturae* (the first edition was published in 1735) gave him enduring fame. In connection with Linnaeus' graduating thesis, "A New Hypothesis Concerning the Cause of Intermittent Fever," it were well for the inquiring reader to turn to the pages of an intensely interesting and highly suggestive paper by the late Dr. J. K. Mitchell (1798-1858), father of our loved and honored Dr. S. Weir Mitchell of Philadelphia. It is entitled "On the Cryptogamous Origin of Malarious and Epidemic Fevers," and was published in 1849. Theoretically the trend of Dr. Mitchell's paper is toward the establishment of a germ-theory of disease, antedating as it does Davaine's discovery of the anthrax bacillus by one year.

*Girolamo Fracastoro, also written Geronomo Fracastorio, and anglicized as Fracastorius. An Italian astronomer, poet and physician. Born at Verona, Italy, in 1483 (some authors give 1484 as the date of his birth); died near Verona August 8, 1553. He wrote a celebrated Latin poem entitled "Syphilidis sive de morbo gallico libri tres" (Verona, 1530), "De vini temperatura" (Venice, 1534), "Homo-centricorum, sive de stellis, etc.," "De sympathia et antipathia rerum, etc." (1546), etc. The collected works of Fracastorius were published in Venice in 1555, two years subsequent to his death. His work "De contagione et contagiosis morbis et curatione," published at Venice in 1546, contains the first scientific account of the true nature of disease germs, or *seminaria contagionum*, as he calls them. Two other early writers on the germ theory of disease, now of historical interest only, were Athanasius Kircher and Hieronymus Mercurialis. But both Kircher and Mercurialis flourished subsequently to Fracastorius. Kircher, a Jesuit and an indefatigable worker, was born in 1601. Mercurialis was a celebrated Italian physician who lived from 1530 to 1607. Kircher's observations were published in the year 1646; those of Mercurialis in 1577.

- a. Diseases infecting by immediate contact (true contagion).
- b. Diseases infecting through intermediate agents, like fomites.
- c. Diseases infecting at a distance or through the air, of which class he instances phthisis, the pestilential fevers, a certain kind of ophthalmia (conjunctivitis), etc.
4. Publication of Mercurialis' work, "De pestilentia in universum, præsertim vero de Veneta at Patavina," in 1577.
5. Publication of Kircher's book, "Ars magna lucis et umbræ," in 1646, in which there is to be found mention of the "worms" which abound in decaying bodies. In Kircher's book entitled "Scrutinium Physico-medicum," published at Rome 12 years later (in 1658), occurs the following remarkable statement:

"There can be no doubt that flies feed on the internal secretions of the diseased and dying; then, flying away, they deposit their excretions on the food in neighboring dwellings, and persons who eat it are thus infected."

Again, on p. 42 of the same (1658) edition of the same work, Kircher describes what were evidently the larger species of saprophytic bacteria in the following words:

"It is known to all that decaying bodies abound in worms, but not until after the wonderful invention of the microscope was it found that all putrid substances swarm with an innumerable brood of worms which are imperceptible to the naked eye, and I would never have believed it if I had not proved it by frequent experiments during many years."

6. The publication in 1735 of Carolus Linnaeus' thesis for the doctor's degree, "A New Hypothesis Concerning the Cause of Intermittent Fever."

7. Tuberculosis and syphilis first recognized as separate and distinct diseases by the health authorities of Berlin, Germany, in the year 1783. Formerly it was taught that it is syphilis in the first generation, scrofula in the second and tuberculosis in the third.

8. When Laennec (born February 17, 1781; died August 13, 1826), a celebrated French physician and inventor of the stethoscope, held on the point of a needle a minute speck of tissue and said: "I have found the seed of tuberculosis; it is here on the point of a needle." And this at the beginning of the nineteenth century, after years of patient search.

9. The contagiousness of puerperal fever announced by Dr. Oliver Wendell Holmes of Boston, U. S. A., in a paper read February 13, 1843, before the Boston Society for Medical Improvement. This paper, entitled "The Contagiousness of Puerperal Fever," at the request of the society, was printed in the *New England Quarterly Journal of Medicine and Surgery* for April, 1843. The following eloquent passages occur in one of the closing paragraphs of Dr. Holmes' essay:

"I have no wish to express any harsh feeling with regard to the painful subject which has come before us. If there are any so far

excited by the story of these dreadful events that they ask for some word of indignant remonstrance to show that science does not turn the hearts of its followers into ice or stone, let me remind them that such words have been uttered by those who speak with an authority I could not claim. It is as a lesson rather than as a reproach that I call up the memory of these irreparable errors and wrongs. No tongue can tell the heart-breaking calamity they have caused; they have closed the eyes just opened upon a new world of love and happiness; they have bowed the strength of manhood into the dust; they have cast the helplessness of infancy into the stranger's arms, or bequeathed it, with less cruelty, the death of its dying parent. There is no tone deep enough for regret and no voice loud enough for warning. The woman about to become a mother, or with her newborn infant upon her bosom, should be the object of trembling care and sympathy wherever she bears her tender burden or stretches her aching limbs. The very outcast of the streets has pity upon her sister in degradation when the seal of promised maternity is impressed upon her. The remorseless vengeance of the law, brought down upon its victim by a machinery as sure as destiny, is arrested in its fall at a word which reveals her transient claim for mercy. The solemn prayer of the liturgy singles out her sorrows from the multiplied trials of life to plead for her in the hour of peril. God forbid that any member of the profession to which she trusts her life, doubly precious at that eventful period, should hazard it negligently, unadvisedly or selfishly!"

At the outset Dr. Holmes thus sums up, in 32 words, the gist of his entire paper, consisting of 70 pages:

"The practical point to be illustrated is the following: *The disease known as puerperal fever is so far contagious as to be frequently carried from patient to patient by physicians and nurses.*"

Four years later (in December, 1847) Semmelweiss* of Vienna,

*Dr. Ignace P. Semmelweiss, the father of antiseptic midwifery, was born in the city of Budapest, Austria, in the year 1818. He began his professional career by serving as resident physician at the Vienna Maternity. While at this institution Semmelweiss noted the resemblance between fatal pyemia from a scratch at the dissecting table and fatal puerperal fever. As early as 1847 Semmelweiss pointed out that the source of puerperal infection may be suppuration. A striking instance was brought to his notice. Students who had examined a patient with a cancerous ulcer of the uterus caused puerperal fever in and death to fourteen women. Fully convinced of the contagiousness of puerperal infection, Semmelweiss set his wits at work to devise a plan to restrict its spread. He wisely hit upon the use of chlorinated lime as a disinfectant, and soon found that those who used this preparation, now recognized as one of the best germicides (Prof. William Simon describes chlorinated lime, or bleaching powder, as "a powerful disinfecting and bleaching agent"), did not carry the disease from one patient to another. Accordingly, Semmelweiss ordered all the students to wash their hands in a solution of chlorinated lime before examining a lying-in patient, and with this order reduced at one stroke the number of cases of puerperal fever to the minimum. Semmelweiss' first article appeared in the *Wiener Zeitschrift* for December, 1847; a second one was printed in Schmidt's *Jahrbücher*, 1848, Vol. LVIII. But the world knew little of these articles and still less of his discovery until 1860, when he published a large work in German on the etiology and prevention of puerperal fever (*Die Aetiologie, der Begriff, und die Prophylaxis des Kindbettfiebers*). Semmelweiss died in an insane asylum at Vienna in 1865. In 1905 a committee was formed at Budapest to collect subscriptions for a monument in honor of his work on the etiology of puerperal fever.

Austria, discovered the contagiousness of puerperal fever independently of Dr. Holmes.

10. The publication, in 1840, of Dr. J. K. Mitchell's paper, "On the Cryptogamous Origin of Malarious and Epidemic Fevers."

11. The anthrax bacillus discovered by Davaine in 1850. The bacillus anthracis bears the unique distinction of being the first pathogenic bacterium whose life history was thoroughly worked out. For this reason the anthrax bacillus has been designated the "keystone to the arch of bacteriology."

12. The discovery of the tubercle bacillus by the late Dr. Robert Koch of Berlin in 1882. Koch procured a "minute speck of tissue" similar to that seen by Laennec upwards of three-quarters of a century before, disintegrated it and stained it by a special method, and demonstrated to the medical world the ubiquitous and all-important bacillus tuberculosis.

13. Enunciation of the mosquito theory of the origin of malaria by Dr. A. F. A. King of Washington, D. C.; also in the year 1882.

VIII. TWENTY PRINCIPAL CAUSES OF DEATH.*

The 20 principal causes of death in Maryland may be summarized as follows:

| | Deaths. | Per Cent. of Total Deaths. | Mor- tality. Total Mor- tality. | Per 1,000. |
|--------------------------------------------------|---------|----------------------------------|------------------------------------------|---------------|
| 1. Tuberculosis, Pulmonary and Laryngeal..... | 2,299 | 11.33 | 17.42 | |
| 2. Chronic Bright's Disease..... | 1,374 | 6.77 | 10.41 | |
| 3. Organic Heart Disease..... | 1,319 | 6.50 | 9.90 | |
| 4. Diarrhea and Enteritis (under 2 years)..... | 1,277 | 6.29 | 9.68 | |
| 5. Congenital Debility..... | 1,225 | 6.03 | 9.28 | |
| 6. Pneumonia | 1,093 | 5.38 | 8.21 | |
| 7. Malignant Neoplasms..... | 826 | 4.07 | 6.26 | |
| 8. Cerebral Congestion and Hemorrhage..... | 811 | 3.99 | 6.14 | |
| 9. Accidental Violence..... | 788 | 3.88 | 5.97 | |
| 10. Senile Debility..... | 602 | 2.95 | 4.56 | |
| 11. Typhoid Fever..... | 517 | 2.54 | 3.91 | |
| 12. Broncho-Pneumonia | 499 | 2.46 | 3.77 | |
| 13. Paralysis | 483 | 2.38 | 3.66 | |
| 14. Influenza | 424 | 2.09 | 3.21 | |
| 15. Gastric Diseases..... | 374 | 1.84 | 2.83 | |
| 16. Meningitis | 257 | 1.26 | 1.94 | |
| 17. Diarrhea and Enteritis (2 years and over)... | 235 | 1.15 | 1.77 | |
| 18. Infantile Convulsions..... | 200 | 0.98 | 1.51 | |
| 19. Acute Nephritis..... | 194 | 0.95 | 1.47 | |
| 20. Diphtheria and Croup..... | 176 | 0.86 | 1.33 | |

IX. EXAMPLE OF PHYSICIANS.

Public health instruction, to be effectual in the minds of the laity, must be teaching by example rather than by precept—must be clinical rather than didactic. How often these conditions are

*Table No. XV, Annual Report of the State Board of Health of Maryland for the year ending December 31, 1908.

reversed! Then our teachings become as "sounding brass or a tinkling cymbal."

Concerning the infectious diseases, there are physicians even who do not believe in vaccination. Is it surprising, then, that we should find groups of "anti-vaccinationists" among the laity? One young lady working in a factory informed me that she had refused to be vaccinated because the health official did not sterilize his needle when passing from one employe to another.

With regard to physicians who do not believe in vaccination, I came in contact with such a one three and a half months ago. The homeopathic physician of whom I speak believed in "internal vaccination." He administered a minute tablet of "malum" every four hours to prevent smallpox. The neighbors across the street took a tablespoonful of cider vinegar every four hours for the same purpose. Perhaps this same physician would treat an actual case of smallpox by the antiquated method in vogue in England in the year 1700. The treatment was internal, and the following is a copy of the prescription:

"Take 30 to 40 live toads and burn them to cinders in a new pot; then crush them into a fine black powder. Dose for smallpox, three ounces."

While the above line of treatment would hardly influence the course of the disease one way or another, it certainly would be rough on the toads.

X. PREVENTIVE MEASURES.

To limit the spread of the various communicable diseases at least two steps are essential:

1. A prompt reporting of the diseases at the time of their occurrence.
2. Co-operation of the laity with physicians and health officers. Already there has been a great awakening in the minds of the people with regard to public health matters. Not a little credit should be given to the newspapers. Through their columns much timely advice has been meted out to the people of Maryland.

XI. SPECIFIC DISEASES.

To prevent the spread of typhoid fever the typhoid bacillus should be killed in the bed-pan. Our forces should be concentrated upon the rural community, the reputed stronghold of the typhoid bacillus. When we shall have done this the so-called "vacation typhoid" will become a matter of history. Anti-typhoid vaccination apparently is gaining ground, and probably will prove to be a valuable adjunct to our present preventive measures.

Vaccination and quarantine will prevent the spread of smallpox. This should not be doubted by anyone after a trial of 110 years. Antitoxin has robbed diphtheria of its terrors. In scarlet fever we still rely largely upon isolation and terminal disinfection. Besides the patient's apartments, his wearing apparel should be fumigated and he himself should take an antiseptic bath.

It appears to me that measles and whooping-cough should receive more serious attention. In the counties of Maryland measles causes 70 deaths annually; whooping-cough, 110. In Pennsylvania, in 1906, there were 1463 deaths from measles. Of these, 1240 were children under five years of age.

XII. CONCLUDING REMARKS.*

As there has not been a death from smallpox in Maryland for five years, let us turn our attention more fully to measles, whooping-cough and typhoid fever. Measles alone causes two and one-half times as many deaths as scarlet fever.

Regarding typhoid fever, are you content that your son or your daughter, bone of your bone and flesh of your flesh, should be exposed to the so-called "vacation typhoid?" If not, let us have a prompt notification of all typhoid fever cases, especially those occurring on dairy farms. Let us unite and concentrate our forces against typhoid fever in rural communities. We should also be watchful lest infantile paralysis gain a foothold in our fair State.

*During the discussion evoked by the "Symposium" Dr. William J. Todd, a wide-awake physician of Mt. Washington, Baltimore county, emphasized three important points: 1. The duty of the State Board of Health to physicians and health officers as regards a prompt sending out of reports on infectious diseases, water and food analyses. 2. Sanitary inspections at stated intervals of our excursion boats. 3. A thorough sanitary supervision of our summer resorts. This latter step Dr. Todd believes to be imperative in order to obviate much so-called "vacation typhoid," the anathema upon the medical profession of the present day.

HIERONYMUS FRACASTOR'S SYPHILIS. From the Original Latin.
A Translation in Prose of Fracastor's Immortal Poem.
Printed on hand-made imported paper, library binding. Crown
octavo. Cloth, \$2 net. St. Louis: The Philmar Medical
Publishers. 1911.

We in our times are prone to pat ourselves on our back and take all the credit for the advancement of medicine. To be sure, medicine has made great strides in these times, but that the old-timers knew something about the art and science of medicine can easily be discerned by reading their writings. That syphilis was pretty well recognized as a clinical entity is definitely settled by a careful perusal of Fracastor's poem on syphilis. In order to make this illustrious poem available to every medical man, the Philmar Publishing Co. has had it translated into prose. From the translation one is surprised at the insight shown by the writer concerning the symptomatology of lues. We also learn from this publication that it was from this poem that lues derived the appellation, syphilis, which is in general use today. According to our light, the writer has not a very clear conception concerning the cause or treatment of the malady. Indeed, in these respects he advances some very fanciful theories, and the writing is full of mythological allusions. Withal it is exceptionally interesting reading, and the Philmar Company is to be congratulated by the medical profession for its enterprise in making Fracastor's poem available to the entire medical fraternity.

LABORATORIES AND MEDICINE.

By H. H. Stoner, M.D.

THE importance of laboratory training to the medical student and the value of well-equipped and properly-conducted laboratories constitutes one of the most important factors in medical education, as well as an absolute necessity as an aid in the diagnosis of disease, both in hospital work and to the general practitioner. The history of the laboratory and its relation to the science of medicine has never been written. We know that anatomy has been considered a part of medical education since the fifteenth century, when Vesalius published his immortal work. The existence of the anatomical laboratory and the study of anatomy by dissection has since then gradually become one of the most important branches in the study of medicine. The necessity of a good practical knowledge of anatomy by the practitioner of medicine is too well realized at the present time to need any discussion.

Of more ancient but of humbler origin was that of the chemical laboratory, which had its birth with the alchemist in his search for the philosopher's stone. The efforts of these men to convert the baser metals into gold led to many useful discoveries and in reality served as an excellent groundwork for the present science of chemistry. Not all of the later-day alchemists devoted their time in trying to make gold, and Paracelsus, though a great charlatan, did much for modern chemistry as well as for modern medicine. He said: "Away with these false disciples who hold that this divine science (alchemy), which they dishonor and prostitute, has no other end but that of making gold and silver. True alchemy has but one aim and object—to extract the quintessence of things, and to prepare arcana, tinctures and elixirs which may restore to man the health and soundness he has lost." Alchemy received its final death-blow through the work and writings of Lavoisier, who in 1783 proved that water could be formed by burning oxygen and hydrogen together. He invented a new chemical nomenclature and he can be regarded as the father of modern chemistry. While the works of Scheele, Berzelius and Gay Lussac will ever remain memorable in the minds of students of chemistry, the first real chemical laboratory was that established by Liebig in Giessen in 1825. Owing to its thorough equipment and the wide scope and character of the work carried on, it has served as a model for similar laboratories of modern times. The chemical laboratory of today is the most extensive and best equipped of all laboratories. Like anatomy, the relation of the study of chemistry to medicine is familiar to everyone, and a knowledge of chemistry forms one of the basic studies of modern medicine.

The physiological laboratory was first established by Purkinje at Breslau in 1824, antedating Liebig's chemical laboratory by one year, but the influence extended by Purkinje's laboratory was not

very great at that time, and it has only been within the last 50 years that the physiological laboratory has taken its place as one of the scientific necessities. At the present time the physiological laboratory is considered a necessary part of every well-equipped medical school, and as a knowledge of physiology is not only in itself essential to the student of medicine, but the practical knowledge gained in the laboratory also serves to disabuse many irrational and pseudo-scientific theories.

Rudolph Virchow established the first pathological laboratory in Berlin in 1856. There can be no doubt that as a branch of medical science the part played by pathology is an important one. Including, as it does, the investigation of the cause of disease, as well as the anatomical and functional alterations produced, pathology may be regarded as forming the scientific basis of modern medicine. At the present time the modern course in pathology embraces a study of gross and microscopical pathology, experimental pathology and physiological pathology. A thorough knowledge of pathology in all its branches is of untold value in the practical diagnosis and treatment of disease.

The first laboratory for independent work in physiological chemistry was that established by Hoppe-Seyler in Strassburg in 1872. Previous to this time work in physiological chemistry was carried on in either chemical or physiological laboratories. Since the establishment of the above-named laboratory such progress has been made in this line of investigation, and its importance as a branch of medical science has become so apparent, that no medical school can be considered complete unless it can afford a thorough practical training in this branch.

While bacteria were first discovered over 200 years ago, and the science of bacteriology established on a firm basis by the work of Pasteur between 1850 and 1860, the rôle that micro-organisms played in the causation of disease in man was not demonstrated until 1880, when Robert Koch introduced new cultural and staining methods, which have made bacteriology an exact science. The introduction of Koch's methods led to the discovery of the typhoid bacillus and the pneumococcus in 1880 and to the discovery of the tubercle bacillus in 1882. Previous to this, however, in 1878, Pettenkofer, who had been interested in hygienic research for many years opened a hygienic laboratory for students and investigators in hygienic and bacteriological problems. The following 15 years were rich in etiological discoveries, and the causative factors of most of the infectious diseases were elucidated. The tremendous influence of these discoveries caused a revolution in the science of medicine, and bacteriological laboratories were soon established in connection with all medical schools worthy of the name.

Bacteriology has not only proven of value through etiological discoveries, but bacteriological methods have opened up new fields of early diagnosis of such infectious diseases as diphtheria, tuber-

culosis, typhoid fever and syphilis, and public laboratories for the diagnosis of such diseases have been established both abroad and throughout this country. Bacteriology has also led to the study of the phenomena which accompany the development of resistance to bacterial infections known as immunity, which has resulted in practical results of untold value. Among these may be mentioned the discovery and use of diphtheria antitoxin, tetanus antitoxin, anti-meningococcus serum, tuberculin and bacterial vaccines. A study of the biological characteristics of the pathogenic bacteria has also revealed the mystery of contagion, and problems both of personal hygiene and public sanitation can be met with and rationally treated through such knowledge.

There are still many fields in bacteriology yet to be explored, particularly in that branch of the science known as immunity, the study of which presents many allurements and promises great benefit to mankind.

PRACTICAL MEDICAL CHEMISTRY. For Students and Practitioners.

By Charles Platt, A.C., M.D., Ph.D., F.C.S. (Lond.), and William A. Pearson, Ph.C., Ph.D., Analytical and Consulting Chemist; Member of the American Chemical Society; Member of the American Pharmaceutical Association and Chairman of the Philadelphia Scientific Section Sixth edition, rewritten and enlarged. Cloth, \$2.50 net. Philadelphia: John Joseph McVey. 1911.

From a book of this character the student is able to get at a glance the part taken by chemistry in the activities of the body. It is well adapted to student requisites, as beginners in medicine desire to know the part this or that branch plays in practical medicine. A careful study of this volume will give him this information as it concerns chemistry. That the book has fulfilled a need is attested by the number of editions through which it has passed. No publication of inferior caliber could live through so many editions. Its scope may be briefly stated as follows: Part I (Inorganic Chemistry, including Table of Elements, Definitions and Laws, Non-metals, Metals, Analytical Scheme for Metals, Tests for Common Acids, General Plan of Analysis, Tests for the Alkaloids, Separation of Metals and Alkaloids from Organic Matter, General Plan of Analysis for Poisons and a section on quantitative analysis) gives an excellent insight into this aspect of chemistry. Part II—This section deals with the chemistry of the carbon compounds, and is sufficiently comprehensive for all practical purposes. Part III, however, will be found most beneficial to the student, especially so as the State Board medical examinations are in some of the States being given in instalments, a student being permitted to take the primary branches after he has completed the first two years. This section deals with physiological chemistry, and presents the subject in such a simple and straightforward style that any tyro can easily grasp the intent of the writers.

REPORT OF BOARD OF MEDICAL EXAMINERS OF MARYLAND.

QUESTIONS AT THE JUNE (1911) EXAMINATIONS.

CHEMISTRY.

1. Explain the following terms: (a) Molecular weight, (b) precipitate, (c) valence, (d) oxidation, (e) efflorescence.
2. Give the general characteristics of acids. Define monobasic, diabasic and tribasic acid, and give an example of each.
3. Give the chemical names and composition of "calomel" and "corrosive sublimate." How may one be distinguished from the other?
4. Give one chemical antidote for each of the following: (a) Nitric acid, (b) oxalic acid, (c) arsenic trioxide, (d) morphine sulphate.
5. Give (a) one chemical test for albumin in urine, and (b) one test for sugar in urine.
6. What is the normal reaction to litmus paper of (a) blood, (b) saliva, (c) succus gastricus, (d) succus entericus and (e) feces?
7. Give the chemical formula of each of the following: (a) Sulphuric acid, (b) hydrochloric acid, (c) potassium permanganate, (d) Epsom salt, (e) ammonia water.
8. Define (a) amphoteric reaction, (b) calorie, (c) indicanuria, (d) hypoacidity, (e) hyperacidity.
9. Give the chemical formula and properties of hydrogen peroxide.
10. Complete the following equations:
$$\text{Na}_2\text{CO}_3 + \text{HCl} =$$

$$\text{K} + \text{H}_2\text{O} =$$

$$\text{CO}_2 + \text{Ca}(\text{OH})_2 =$$

$$\text{Mg} + \text{H}_2\text{SO}_4 =$$

$$\text{CuO} + 2\text{HNO}_3 =$$

ANATOMY.

1. Name varieties of cartilage.
2. Describe briefly two varieties named.
3. Describe the clavicle.
4. Describe the hip joint.
5. What arteries supply the heart with blood, and where do they originate?
6. Give general description of testicles.
7. Describe the pericardium.
8. What are the parathyroid bodies?
9. Name the 12 pairs of cranial nerves.
10. Name principal muscles of the back.

THERAPEUTICS.

1. Define chemical incompatibility. Give three illustrations and write a prescription showing it.

2. Define pharmaceutical incompatibility. Give three illustrations and write a prescription showing it.

3. Give physiological action of glonoinum and indications for its use.

4. Describe the indications for use of carbohydrates. Illustrate their use and name six.

5. Give the therapeutics of arsenous acid; symptoms of arsenical poisoning and antidote.

6. Give the therapeutics of acid hydrocyanic; manifestations of poisoning and antidote.

7. Write a prescription in Latin, without abbreviations, containing four liquid ingredients; state conditions for which it is intended and give directions for its use.

8. Write a prescription in Latin, without abbreviations, containing three ingredients in powder; state conditions for which it is intended and give directions for its use.

9. State briefly the therapeutics of nux vomica.

10. State briefly the therapeutics of thyroid extract and adrenal extract.

MATERIA MEDICA.

1. (a) Plumbum—give five preparations. (b) The treatment in the case of poisoning.

2. (a) Codein, heroin, dionin and peronin—from what prepared? Dose of each. (b) To what class of drugs do choral hydrate, sulphonal, trional, veronal and the bromides belong? Average dose of each.

3. (a) Define tinctures and extracts. (b) What is meant by incompatibility in medicines? Name some incompatibles.

4. Write a prescription containing in pill form iron, quinine, arsenic and strychnine, using the official terms in full.

5. To what class of drugs do camphor, asafetida, valerian, compound spirits of ether, musk and viburnum prunifolium belong? Give the average dose of each.

6. To what class of drugs do acetanilid, antipyrin, phenacetin, quinine, aconite, guaiacol belong? Give the average dose of each.

7. (a) Name five vegetable astringents. (b) Name five mineral astringents. (c) Name three diuretics. (d) What are expectorants, and into what two classes are they divided? Name some of each.

8. Give the composition of black wash, Brown mixture and compound cathartic pill.

9. Write a prescription for a child five years

old containing paregoric, subnitrate of bismuth, prepared chalk, using in full the official names.

10. Define *materia medica*. What is meant by U. S. *Pharmacopeia*?

PHYSIOLOGY.

1. Name and locate the glands of the small intestines.

2. (a) Describe the normal pulse, its variations in infancy, youth and old age. (b) How does the pulse rate compare with respiration?

3. Where in the body is each of the following found, and what the function of each—pepsin, trypsin, glycogen, ptyalin and synovia?

4. What is meant by the vasomotor nervous system?

5. (a) What is meant by blood pressure and how estimated? (b) What are some of the causes altering blood pressure? (c) How does the weight of the entire amount of blood in the body compare with the weight of the body?

6. Give functions of spinal cord.

7. What is accomplished physiologically by the portal circulation?

8. Describe briefly the functions of the pneumogastric nerve.

9. Through what three main channels is water lost from the body?

10. Describe the effect of strychnine upon the central nervous system.

PATHOLOGY.

1. Mention a cause for each of the following conditions: Edema of one leg, edema of both legs, edema of one arm, ascites, edema of the lungs, hydrothorax.

2. What is meant by the term compensation as used in heart diseases? By broken compensation? Trace the course of events depending on the latter condition.

3. Mention at least five diseases that are transmitted by insects. Name the carriers and the method by which the infection is introduced.

4. What is a cyst? Mention two forms of cyst that are commonly met with and explain their causation. What is meant by the term encysted?

5. Describe briefly the gross and microscopic appearances of an atrophic cirrhotic liver. Mention the pathological changes inherent to this condition.

6. Describe the formation of scar tissue and mention its principal characteristics.

7. What is the Widal reaction?

8. What is an aneurysm? Describe the formation of an aneurysm of the aorta.

9. How would you demonstrate the presence of bacteria in milk? How would you estimate the number in a cubic centimeter of milk?

10. What are the essential lesions of scarlet fever? What means would you use to prevent the spreading of the contagion in this disease?

PRACTICE.

1. Define (a) Kernig's sign, (b) tachycardia, (c) cholecystitis, (d) myxedema, (e) urticaria.

2. Define (a) Grocco's sign, (b) tabes dorsalis, (c) herpes zoster, (d) rubella, (e) hydronephrosis.

3. Differentiate—Variola and varicella.

4. Cancer and ulcer of the stomach.

5. Spasmodic and membranous croup.

6. Coma of alcohol, uremia and cerebral hemorrhage.

7. Give treatment of acute chorea.

8. Give treatment of chronic nephritis.

9. Give treatment of ulcerative stomatitis.

10. Give diagnosis and treatment of intestinal perforation in typhoid fever.

SURGERY.

1. What is trachoma? Give signs and symptoms.

2. Give the definitions of toxemia, septicemia, pyemia.

3. Give strength and dose of solution of cocaine for local anesthesia; its indications and dangers.

4. Name the general anesthetics employed in surgical cases.

5. Surgical shock. Give physiology, etiology, symptoms, diagnosis and treatment.

6. Describe a simple manner of testing the hearing and its expression by fractional formula.

7. Give the differential diagnosis between chronic appendicitis and gall-stones.

8. Name some causes, symptoms and treatment of caries.

9. Give the secondary symptoms of acquired syphilis.

10. Describe the operation of thoracotomy (resection of ribs), and give the indications for the same.

OBSTETRICS.

1. Describe the pelvic joints, and their relation to labor and delivery.

2. What is a corpus luteum?

3. What is the cause of hyperemesis gravidarum and the clinical features and the treatment of the condition?

4. Describe in detail the symptoms of extra uterine pregnancy.

5. Give the diagnosis and management of a breech presentation. What are the dangers to the child?

6. Describe the application of forceps to the fetal head.

7. How would you manage a case of primary post-partum hemorrhage?

8. How would you treat a case of complete prolapsus uteri?

9. Give the treatment of mastitis.

10. Ophthalmia neonatorum. Give prophylaxis and treatment.

Summary of Results of Examination Held by the Board of Medical Examiners of
Maryland, June 20, 21, 22 and 23, 1911.

Summary of Results of Examination Held by the Board of Medical Examiners of Maryland, June 20, 21, 22 and 23, 1911.—(Continued.)

| No. | COLLEGE OF GRADUATION. | Anatomy | Surgery | Obstetrics | Pathology | Practice | Chemistry | Materia Medica | Therapeutics | Physiology | Total | Average |
|-----|---------------------------------------------------|---------|---------|------------|-----------|----------|-----------|----------------|--------------|------------|-------|---------|
| 67 | University of Maryland, '11..... | 71 | 94 | 81 | 89 | 77 | 75 | 57 | 71 | 75 | 690 | 77 |
| 68 | Johns Hopkins..... | 80 | .. | .. | .. | 88 | 62 | .. | 90 | .. | .. | .. |
| 69 | Maryland Medical, '09..... | 75 | .. | .. | .. | 75 | .. | .. | .. | .. | .. | .. |
| 70 | University of Maryland, '11..... | 84 | 92 | 82 | 92 | 83 | 75 | 80 | 80 | 80 | 748 | 83 |
| 71 | College of Physicians and Surg., Balto., '11..... | 92 | 90 | 90 | 91 | 77 | 72 | 50 | 89 | 76 | 727 | 81 |
| 72 | Johns Hopkins, '11..... | 86 | 90 | 94 | 88 | 78 | 82 | 80 | 89 | 94 | 781 | 87 |
| 73 | Maryland Medical, '11..... | 76 | 88 | 78 | 90 | 75 | 91 | 84 | 90 | 75 | 747 | 83 |
| 74 | Maryland Medical, '10..... | 40 | 40 | 25 | 68 | 47 | 36 | 45 | 45 | 22 | 368 | 41 |
| 75 | Johns Hopkins, '11..... | 75 | 98 | 93 | 85 | 69 | 76 | 68 | 73 | 87 | 724 | 80 |
| 76 | Woman's Medical, Phila., '11..... | 80 | 88 | 98 | 96 | 86 | 90 | 93 | 96 | 94 | 821 | 91 |
| 77 | Johns Hopkins, '11..... | 64 | 78 | 74 | 86 | 59 | 89 | 63 | 68 | 69 | 650 | 72 |
| 78 | Johns Hopkins, '11..... | 67 | 82 | 92 | 81 | 75 | 88 | 75 | 79 | 89 | 728 | 81 |
| 79 | Jefferson, '11..... | 97 | 80 | 94 | 79 | 87 | 84 | 86 | 100 | 99 | 806 | 89 |
| 80 | Johns Hopkins, '11..... | 79 | 90 | 100 | 92 | 77 | 87 | 60 | 88 | 98 | 769 | 85 |
| 81 | Medical and Chirurgical, Phila., '05..... | 72 | 80 | 77 | 78 | 58 | 66 | 75 | 85 | 71 | 662 | 73 |
| 82 | Woman's Medical, Phila., '11..... | 85 | 80 | 94 | 85 | 71 | 77 | 81 | 79 | 85 | 737 | 82 |
| 83 | University of Pennsylvania, '10..... | 75 | 78 | 85 | 88 | 70 | 75 | 47 | 53 | 76 | 647 | 72 |
| 84 | Baltimore Medical, '10..... | 77 | 78 | 77 | .. | .. | 83 | 85 | 75 | 78 | .. | .. |
| 85 | Baltimore Medical, '10..... | 90 | 80 | 82 | 93 | 82 | 89 | 92 | 94 | 83 | 785 | 87 |
| 86 | University of Maryland, '11..... | 97 | 85 | 81 | 94 | 78 | 73 | 75 | 88 | 95 | 766 | 85 |
| 87 | University of Maryland, '11..... | 91 | 78 | 94 | 90 | 83 | 80 | 78 | 90 | 90 | 774 | 86 |
| 88 | Maryland Medical, '11..... | 75 | 96 | 69 | 92 | 76 | 83 | 86 | 79 | 75 | 731 | 81 |
| 89 | College of Physicians and Surg., Balto., '11..... | 82 | 80 | 89 | 91 | 80 | 68 | 91 | 94 | 80 | 755 | 84 |
| 90 | Woman's Medical, Phila., '11..... | 91 | 78 | 81 | 83 | 77 | 83 | 87 | 73 | 91 | 744 | 83 |
| 91 | University of Maryland, '11..... | 87 | 80 | 84 | 92 | 83 | 86 | 93 | 93 | 90 | 780 | 87 |
| 92 | Baltimore Medical, '11..... | 83 | 75 | 81 | 88 | 75 | 86 | 88 | 86 | 89 | 751 | 83 |
| 93 | University of Maryland..... | 81 | .. | .. | .. | 71 | 75 | .. | 78 | .. | .. | .. |
| 94 | Johns Hopkins, '11..... | 77 | 90 | 96 | 88 | 78 | 78 | 90 | 67 | 72 | 746 | 83 |
| 95 | Woman's Medical, Phila., '11..... | 78 | 80 | 93 | 92 | 83 | 82 | 88 | 82 | 80 | 758 | 84 |
| 96 | University of Maryland, '11..... | 66 | 70 | 82 | 90 | 64 | 79 | 68 | 64 | 80 | 663 | 73 |
| 97 | Johns Hopkins, '11..... | 75 | 85 | 83 | 85 | 75 | 70 | 75 | 81 | 88 | 717 | 80 |
| 98 | Jefferson, '11..... | 83 | 90 | 83 | 70 | 75 | 82 | 88 | 95 | 91 | 757 | 84 |
| 99 | College of Physicians and Surg., Balto., '11..... | 77 | 90 | 91 | 93 | 66 | 78 | 85 | 88 | 96 | 764 | 85 |
| 100 | College of Physicians and Surg., Balto., '11..... | 68 | 95 | 81 | 89 | 75 | 79 | 80 | 95 | 83 | 745 | 83 |
| 101 | Maryland Medical, '11..... | 75 | 70 | 71 | 70 | 48 | 76 | 87 | 75 | 62 | 634 | 70 |
| 102 | Maryland Medical, '11..... | 76 | 85 | 62 | 86 | 63 | 88 | 60 | 79 | 61 | 660 | 73 |
| 103 | Johns Hopkins, '11..... | 85 | 95 | 93 | 93 | 82 | 93 | 76 | 85 | 93 | 795 | 88 |
| 104 | College of Physicians and Surg., Balto., '11..... | 90 | 90 | 80 | 74 | 78 | 75 | 82 | 74 | 84 | 727 | 81 |
| 105 | Johns Hopkins, '11..... | 70 | 96 | 94 | 92 | 70 | 82 | 75 | 87 | 94 | 760 | 84 |
| 106 | University of Maryland, '05..... | 30 | 75 | 38 | 80 | 75 | 88 | 81 | 88 | 72 | 627 | 69 |
| 107 | University of Maryland, '11..... | 84 | 20 | 83 | 97 | 80 | 78 | 79 | 88 | 87 | 756 | 84 |
| 108 | University of Maryland, '11..... | 93 | 80 | 89 | 97 | 75 | 83 | 75 | 85 | 95 | 772 | 86 |
| 109 | University of Maryland, '11..... | 90 | 85 | 76 | 91 | 76 | 76 | 98 | 98 | 90 | 780 | 87 |
| 110 | Johns Hopkins, '11..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 111 | University of Maryland, '11..... | 86 | 80 | 82 | 93 | 75 | 76 | 95 | 86 | 96 | 769 | 85 |
| 112 | Baltimore Medical, '11..... | 75 | 90 | 84 | 93 | 75 | 87 | 88 | 83 | 90 | 765 | 85 |
| 113 | University of Maryland, '11..... | 80 | 84 | 96 | 93 | 80 | 98 | 85 | 94 | 100 | 810 | 90 |
| 114 | Johns Hopkins, '11..... | 90 | 80 | 94 | 87 | 76 | 91 | 75 | 79 | 94 | 766 | 85 |
| 115 | Johns Hopkins, '11..... | 79 | 95 | 92 | 94 | 77 | 78 | 75 | 92 | 82 | 764 | 85 |
| 116 | University of Maryland, '09..... | 85 | 94 | 92 | 89 | 69 | 89 | 60 | 71 | 89 | 738 | 82 |
| 117 | Baltimore Medical, '11..... | 80 | 95 | 84 | 89 | 79 | 85 | 90 | 86 | 84 | 772 | 86 |
| 118 | Johns Hopkins, '11..... | 89 | 90 | 89 | 82 | 81 | 80 | 78 | 89 | 90 | 768 | 85 |
| 119 | Johns Hopkins, '11..... | 75 | 90 | 97 | 93 | 75 | 80 | 75 | 71 | 91 | 747 | 83 |
| 120 | George Washington University, '11..... | 65 | 75 | 83 | 87 | 67 | 65 | 75 | 83 | 75 | 675 | 75 |
| 121 | College of Physicians and Surg., Balto., '10..... | 65 | 80 | 73 | 83 | 71 | 80 | 60 | 60 | 83 | 655 | 73 |
| 122 | University of Maryland, '09..... | 67 | 70 | 68 | 79 | 68 | 93 | 65 | 80 | 95 | 685 | 76 |
| 123 | University of Pennsylvania, '11..... | 75 | 90 | 92 | 86 | 75 | 77 | 75 | 68 | 84 | 722 | 80 |
| 124 | University of Maryland..... | 90 | .. | .. | .. | .. | 90 | 65 | .. | 88 | .. | .. |
| 125 | Maryland Medical, '11..... | 61 | 70 | 55 | 66 | 59 | 67 | 75 | 72 | 63 | 589 | 65 |
| 126 | Johns Hopkins, '11..... | 88 | 94 | 87 | 98 | 75 | 91 | 75 | 79 | 97 | 784 | 87 |
| 127 | Johns Hopkins, '11..... | 85 | 98 | 97 | 95 | 75 | 85 | 75 | 84 | 97 | 791 | 88 |
| 128 | Johns Hopkins, '11..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. | .. |
| 129 | Maryland Medical, '11..... | 83 | 80 | 75 | 75 | 75 | 85 | 65 | 89 | 90 | 717 | 89 |
| 130 | University of Maryland, '11..... | 85 | 95 | 77 | 88 | 80 | 82 | 85 | 93 | 90 | 775 | 86 |
| 131 | Jefferson,..... | 85 | .. | .. | .. | 83 | 75 | .. | 75 | .. | .. | .. |
| 132 | Woman's Medical, Phila., '11..... | 90 | 93 | 95 | 80 | 83 | 88 | 90 | 94 | 97 | 810 | 90 |
| 133 | Johns Hopkins, '10..... | 85 | 80 | 78 | 80 | 80 | 82 | 75 | 77 | 88 | 725 | 81 |
| 134 | Jefferson, '11..... | 85 | 88 | 75 | 91 | 84 | 87 | 85 | 94 | 94 | 783 | 87 |
| 135 | University of Pennsylvania..... | 85 | .. | .. | .. | 79 | 75 | .. | 97 | .. | .. | .. |

Failed to appear.

Failed to appear.

Summary of Results of Examination Held by the Board of Medical Examiners of Maryland,
June 20, 21, 22 and 23, 1911.—Continued.

| No. | COLLEGE OF GRADUATION. | Anatomy..... | Surgery..... | Pathology..... | Obstetrics..... | Practice..... | Physiology..... | Therapeutics..... | Materia Medica..... | Chemistry..... | Total..... | Average..... |
|----------|-------------------------------------------|--------------|--------------|----------------|-----------------|---------------|-----------------|-------------------|---------------------|----------------|-------------------|--------------|
| 136 | Woman's Medical, Phila., '11..... | 85 | 90 | 96 | 77 | 83 | 72 | 87 | 88 | 97 | 775 | 86 |
| 137 | Woman's Medical, Phila., '11..... | 81 | 80 | 85 | 70 | 75 | 77 | 75 | 81 | 80 | 704 | 78 |
| 138 | Howard University, '11..... | 85 | 95 | 87 | 92 | 83 | 82 | 95 | 100 | 93 | 812 | 90 |
| 139 | Woman's Medical, Phila., '11..... | 75 | 90 | 72 | 84 | 75 | 81 | 60 | 79 | 97 | 713 | 79 |
| 140 | University of Pennsylvania, '10..... | 77 | 84 | 90 | 75 | 71 | 81 | 75 | 80 | 87 | 720 | 80 |
| 141 | University of Maryland, '09..... | 77 | .. | .. | .. | .. | 83 | .. | .. | 90 | .. | .. |
| 142 | Jefferson, '11..... | 84 | 90 | 89 | 47 | 75 | 79 | 82 | 77 | 90 | 743 | 82 |
| 143 | Johns Hopkins, '11..... | 75 | 92 | 94 | 70 | 59 | 76 | 75 | 83 | 85 | 709 | 78 |
| 144 | Woman's Medical, Phila., '11..... | 80 | 85 | 86 | 87 | 69 | 68 | 75 | 78 | 82 | 710 | 79 |
| 145 | Woman's Medical, Phila., '11..... | 96 | 95 | 90 | 91 | 80 | 75 | 80 | 84 | 95 | 786 | 87 |
| 146 | Jefferson..... | 79 | .. | .. | .. | .. | 66 | 60 | .. | 62 | .. | .. |
| 147 | Baltimore Medical, '11..... | 95 | 88 | 95 | 95 | 75 | 88 | 75 | 98 | 87 | 776 | 86 |
| 148 | University of Maryland, '11..... | 80 | 94 | 92 | 76 | 61 | 75 | 70 | 89 | 75 | 712 | 79 |
| 149 | University of Maryland, '11..... | 63 | 85 | 85 | 88 | 70 | 75 | 75 | 76 | 75 | 692 | 77 |
| 150 | Jefferson, '11..... | 83 | 80 | 81 | 65 | 76 | 78 | 60 | 87 | 82 | 692 | 77 |
| 151 | Baltimore Medical, '11..... | 82 | 90 | 88 | 92 | 70 | 92 | 82 | 94 | 91 | 781 | 87 |
| 152 | Baltimore Medical, '11..... | 82 | 96 | 85 | 89 | 77 | 84 | 85 | 89 | 85 | 772 | 86 |
| 153 | Baltimore Medical, '11..... | 89 | 100 | 92 | 92 | 79 | 92 | 90 | 90 | 100 | 824 | 91 |
| 154 | University of Pennsylvania, '11..... | 88 | 90 | 93 | 88 | 75 | 68 | 75 | 78 | 90 | 745 | 83 |
| 155 | Maryland Medical, '11..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | Failed to appear. | .. |
| 156 | Jefferson, '11..... | 78 | 88 | 90 | 87 | 78 | 88 | 80 | 88 | 75 | 752 | 84 |
| 157 | Jefferson, '06..... | 80 | 80 | 87 | 88 | 75 | 79 | 75 | 88 | 85 | 737 | 82 |
| 158 | University of Maryland..... | 93 | .. | .. | .. | .. | 88 | 75 | .. | 89 | .. | .. |
| 159 | Jefferson, '11..... | 90 | 95 | 93 | 91 | 80 | 77 | 76 | 80 | 85 | 767 | 85 |
| 160 | University of Georgia, '09..... | 50 | 90 | 62 | .. | .. | 75 | 75 | 83 | .. | .. | .. |
| 161 | University of Pennsylvania..... | .. | .. | .. | .. | .. | .. | .. | .. | .. | Failed to appear. | .. |
| 162 | University of Maryland, '11..... | 73 | 85 | 75 | 60 | 75 | 75 | 75 | 86 | 71 | 675 | 75 |
| 163 | Maryland Medical, '07..... | 65 | .. | 72 | .. | .. | .. | .. | .. | .. | .. | .. |
| 164 | University of Maryland, '04..... | .. | .. | 75 | .. | .. | 75 | .. | .. | .. | .. | .. |
| 165 | Maryland Medical, '10..... | 28 | 68 | 52 | 40 | 63 | 65 | 70 | 69 | 60 | 515 | 57 |
| 166 | University of Pennsylvania, '10..... | 79 | 90 | 93 | 87 | 75 | 87 | 90 | 90 | 97 | 788 | 87 |
| 167 | Medical and Chirurgical, Phila., '11..... | 69 | 88 | 79 | 83 | 68 | 63 | 75 | 75 | 75 | 675 | 75 |
| 168 | University of Maryland, '11..... | 95 | 90 | 98 | 98 | 80 | 91 | 80 | 90 | 95 | 817 | 91 |
| 169 | University of Maryland, '11..... | 82 | 75 | 75 | 93 | 66 | 78 | 75 | 65 | 75 | 684 | 76 |
| 170 | University of Maryland, '11..... | 75 | 75 | 70 | 77 | 67 | 96 | 70 | 75 | 77 | 682 | 76 |
| 171 | Johns Hopkins, '01..... | 82 | 96 | 92 | 80 | 77 | 88 | 76 | 100 | 95 | 786 | 87 |
| 172 | Jefferson, '11..... | 84 | 95 | 64 | 75 | 77 | 75 | 75 | 88 | 71 | 704 | 78 |
| 173 | Johns Hopkins..... | 85 | .. | .. | .. | .. | 85 | 95 | .. | 100 | .. | .. |

In the above summary an average of 75 is required of those participating in the examination for the first time in order to secure a license. Those who have failed are eligible to re-examination at the expiration of six months. They are then obliged to receive a rating of 75 in each branch in which they are re-examined before license can be issued. Under the Maryland laws, students who, at the end of their second year, have successfully passed their college examination in Anatomy, Chemistry, Materia Medica and Physiology, are entitled to examination by the Board of Medical Examiners in these branches. The ratings made by these students in the examination known as the "second-year examination" are carried forward and made part of the final examination, when an average of 75 must be obtained to secure a license. We trust that this statement will make clear the apparently incomplete examination of certain participants.

MARYLAND MEDICAL JOURNAL

NATHAN WINSLOW, M.D., *Editor.*

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BALTIMORE, SEPTEMBER, 1911

BRILL'S DISEASE.

In January, 1910, Dr. N. E. Brill presented at a meeting of the New York Academy of Medicine a paper embodying the results of a clinical study in 221 cases of an acute infectious disease of unknown origin. According to Leon Louria, (*Medical Record*), it was Brill's opinion that this disease represents a clinical entity distinct from any disease hitherto described. Of course, such a report aroused a great deal of scepticism, but owing to Dr. Brill's well-known carefulness and conservatism, a committee of the academy was appointed to investigate the reliability of the conclusions, and in December, 1910, rendered the following report:

The cases described by Dr. Brill present a fairly uniform symptomatic picture, and seem to the committee to be entitled to recognition as a clinical group; the clinical picture is quite distinct from that of typhoid fever; it seems conclusive that they are not cases of infection with the typhoid or paratyphoid bacillus; the evidence at hand does not seem sufficient to decide whether these cases represent an atypical form of some already recognized disease other than typhoid or paratyphoid fever, or are instances of a disease hitherto unrecognized. Dr. Louria now comes forward with the statement that during the summer and fall he has had the opportunity of observing 18 cases of this character, and furthermore, presents the histories of three of the most typical, from which may be ascertained that in the majority of cases the onset is sudden, with a chill, fever and severe headache; in a smaller number of cases the onset is gradual. Prostration from and inca-

pacity for work are marked. Constipation is a marked feature. In a few of his cases vomiting and abdominal pain were present. Epistaxis was observed in two of his cases. Cough was present in many of his cases, dry, with or without expectoration. The tongue was moist, coated with a white fur, and only the edges were red. The pulse was rapid, varying between 90 and 120, and frequently dicrotic. The blood pressure was low in most instances, gradually rising as the temperature reached normal. Gernig's sign was present in most of the cases, and the rigidity of the neck, in greater or less degree, was nearly always observed. The eruption is the most characteristic symptom of the disease. It usually appears on the third or fourth day after the onset in one crop, and remains prominent during the febrile period, disappearing with the drop of temperature. The spots are maculo-papular in character, about 2-4 mm. in diameter, discrete or confluent, and appear at once all over the trunk, with the exception of the face. The examination of the urine and feces for the typhoid group was negative. In none of his cases was there a leucopenia. The Widal reaction was negative in every case after repeated examinations. Blood cultures in all of the cases were sterile. The temperature curve was characteristic; following a chill it rises to 104-105° F. in 24 to 48 hours; remains stationary for 10 to 14 days, when it falls by lysis. In 222 cases reported by Brill only one died. The autopsy findings showed none of the characteristic lesions of typhoid. The only other disease which it resembles is typhus, and Brill himself says that if there were a typhus epidemic, one would be unable to differentiate his cases from the latter disease. It is the opinion of some that Brill's disease is merely a mild typhus, especially as most of the cases have occurred in the families of natives of Russia, in which country typhus is endemic. This coincidence must certainly be taken into consideration, as it lends considerable color to the probable relationship existing between these diseases. Be this as it may, there is no doubt that cases presenting the characteristic symptoms as described by Brill do occur, and until the exact nature of the disease is determined it is well to look upon it as a clinical entity. The prognosis is good, recovery taking place almost without exception and free from complications. Treatment is symptomatic.

Medical Items.

DR. WINFORD H. SMITH has assumed the duties of superintendent at the Johns Hopkins Hospital, succeeding Dr. Henry M. Hurd, who has been superintendent for 22 years. Dr. Hurd will continue to serve the institution as secretary and advisor to the board of trustees. Dr. Smith is a Hopkins graduate. He was formerly superintendent of the allied hospitals of New York city, which include the Fordham, Harlem and Gouverneur hospitals. He spent the summer in Europe, studying foreign hospitals.

DR. GEORGE HELLER, who has been quite sick, is almost entirely recovered.

DR. HIRAM WOODS has returned from an extended trip in the West, where he attended the Los Angeles meeting of the American Medical Association, later traveling through the western part of Canada.

DR. GEORGE Y. MASSENBERG of Towson, who has been very ill with typhoid fever, is reported as being much improved.

DR. J. FRANK CROUCH is traveling through Europe. Dr. Crouch has sold his beautiful summer home on the Severn River.

DR. ALEXANDER D. McCONACHIE is touring New England in his motor car.

DR. JOHN W. CHAMBERS is in Mount Clement, Mich.

DR. A. SAMUELS is traveling in Europe.

THE Washington County Hospital Association has purchased the Kee Mar College property and will convert it into a hospital at an expense of over \$60,000. The farm recently purchased on the outskirts of Hagerstown for this purpose will probably be sold.

DRS. WILLIAM TARUN, JAMES F. H. GORSUCH and L. GIBBONS SMART have been appointed a committee by the Baltimore County Medical Association to ask for subscriptions to a fund to place a portrait of Dr. James H. Jarrett of Towson in the hall of the Medical and Chirurgical Faculty of Maryland. Dr. Jarrett has been in active practice for over 59 years, having graduated at the University of Maryland in 1852.

DR. JOHN I. PENNINGTON is spending the summer at Belmar, N. J.

DR. HUGH H. YOUNG was recalled from Europe by the death of his mother, Mrs. Frances H. Young.

DR. JOHN R. WINSLOW is spending some time in Nova Scotia, and will later visit Cape Breton and Prince Edward Island.

DR. MARSHALL B. WEST of Catonsville will spend the early part of September at Atlantic City, N. J.

DR. WILLIAM BURCH is spending August at his country place, St. Helena, on the Potomac, St. Mary's county.

DR. NATHAN WINSLOW has returned from a trip to St. Mary's Hospital, Rochester, Minn.

DR. JOHN TURNER is yachting near Old Point Comfort, Va.

DR. GEORGE A. FLEMING is spending August at Eagles Mere Park, Pa.

DR. FITZRANDOLPH WINSLOW is on a trip to Jamaica and the West Indies.

DR. EDWARD A. BERNSTEIN, formerly of Baltimore, is now located in Kalamazoo National Bank Bldg., Kalamazoo, Mich.

DR. THOMAS CHEW WORTHINGTON is following his usual custom of spending the summer in Massachusetts.

DR. B. MERRILL HOPKINSON will take up his duties as choir director of St. Michaels and All Angels' Episcopal Church September 1. Dr. Hopkinson has successfully filled this position at Brown Memorial Presbyterian Church for the past 21 years.

THERE is a vacancy in the position of resident physician at the Presbyterian Eye, Ear and Throat Hospital.

MARRIAGES.

LEWIS MORRIS, M.D., U. S. N., University of Maryland, 1890, to Mrs. Ella Bingham Duffy of New York, at New York, August 1, 1911. The couple will reside at the Brooklyn Navy-Yard.

JAMES M. DELEVETT, M.D., Baltimore Medical College, '03, to Miss Mary E. Fitzhugh, both of Baltimore, at Philadelphia, August 9, 1911.

WAITMAN F. ZINN, M.D., to Miss Katherine A. Burgess, both of Baltimore, at Baltimore, July 26, 1911. Dr. Zinn is stationed at the Mercy Hospital.

CHARLES HIGHSMITH, M.D., Baltimore Medical College, '98, of Dunn, N. C., to Miss Josephine Perry of Snow Hill, N. C., at Snow Hill, June 28, 1911.

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Whole No. 1121

NEURITIS PUPERALIS, WITH REPORT OF TWO CASES.

By Irving J. Spear, M.D.,

Clinical Professor of Nervous and Mental Diseases, University of Maryland.

NEURITIS of every degree of intensity may occur either during pregnancy or in the puerperal period. It may be caused by any of the common factors that bring about inflammation of nerves at any other time, such as alcohol, any other exogenous toxin, trauma, infectious diseases or extension of inflammation from neighboring structures. These forms of neuritis do not differ in their histories from neuritis that occurs in the non-pregnant individual.

Neuritis puerperalis varies in degree from the mildest forms in which there is present only pain, paresthesia, etc.; in the distribution of a single nerve, more severe forms in which there are present paralysis, anesthesia, pain, trophic disturbances, etc., to the most severe forms which present symptoms similar to Korsakow's syndrome, which show involvement both of the peripheral and central nervous systems.

Investigations of Möbius, Eulenburg, Sanger and others have familiarized us with this form of neuritis. That it may be due to some special endogenous toxin caused by perversion of bodily metabolism during the pregnant period there can be no doubt. In many of the reported cases all forms of toxemia, trauma, etc., could be positively excluded, and in hyperemesis gravidarum we usually see the most aggravated forms.

In case 1 we have a history of a very probable multiple neuritis complicating a pregnancy that occurred five years ago. In this attack it is perfectly possible to exclude all forms of exogenous toxemia, trauma, infectious diseases, etc. This woman was desperately ill from her hyperemesis gravidarum, and had a perfectly typical multiple neuritis. The institution of the proper treatment for the hyperemesis gravidarum with only slight treatment di-

rected toward the multiple neuritis resulted in a prompt and perfect recovery.

In case 2 patient comes to us having all the signs and symptoms of a severe case of multiple neuritis, with marked disturbance of memory for recent events, presenting a typical picture of Korsakow's disease. From a very careful inquiry of her surroundings, habits, etc., chronic alcoholism can be absolutely excluded, and we must, therefore, acknowledge that in this case, at least, Korsakow's syndrome can be caused by some other toxin than alcohol.

CASE I.

Mrs. B. C.; age 23; married; September 11, 1910. Entered the Hebrew Hospital complaining of vomiting, headache, giddy spells and weakness.

Family History.—Negative

Past History.—Usual diseases of childhood; otherwise healthy. Five years ago patient had first child, which only lived six hours; on day following delivery could not move hands or feet; for this trouble she was treated in a hospital for four months without much improvement, but at the end of nine months was able to walk around, and gradually made a complete recovery. Eight months ago had a full-term child; normal labor. Was perfectly well for three months.

Habits are good; denies using alcohol, drugs, etc.

Menstrual History.—Normal.

Careful inquiry into her surroundings, etc., failed to reveal any possibility of a chronic or acute toxemia of external origin.

Present Illness.—About five months ago she began to feel strange, and about two months ago she could not walk; had a tingling sensation in her hands, and her legs were getting weak; has been in bed for five months; last two weeks has been getting around on crutches. Note was made on September 15, 1910, four days after entering hospital. Patient has flushed face, frequent attacks of nausea and vomiting, cannot retain any food, vomiting occurring independent of food, when the vomited material consists of bile stain mucus. This vomiting is persistent.

Physical Examination.—Well developed and well-nourished woman; not emotional, nor does she seem to be in very much pain; expression anxious; speech is normal; memory good; gait very uncertain, patient requiring assistance to prevent her from falling.

Examination of chest and abdomen negative.

Examination of pelvis, made by Drs. Hunner and Neal, revealed the fact that there existed about a three months' pregnancy.

Urine at first was negative to albumin and sugar, Sp. G. 1030; ammonia coefficient, 47; acetone and diacetic acid present; later on albumin became persistently present.

Blood findings are practically negative.

Temperature normal. Pulse rate 90-120. Respiratory rate normal.

Motor functions marked weakness of extensors of both wrists and flexors of both ankles. Reflexes, absence of knee and tendon-achilles reflexes; plantar present.

Atrophy of muscles of the leg more marked on right side; atrophy of muscles of forearms on both sides.

Co-ordination upper and lower extremities poor.

Rectal and vesical reflexes normal. No abnormal movements.

Sensory Functions.—Muscle sense of lower extremities very poor, tactile; pain and temperature sense are not noticeably disturbed. Marked tenderness of nerves and muscles in upper and lower extremities; skin rough and scaly.

Cranial nerves normal.

Diagnosis of multiple neuritis due to endogenous toxins was made.

Due to the patient's progressive weakness and persistent vomiting, it was deemed advisable to evacuate the uterus. This was done on September 25; patient left the hospital on December 10 cured.

CASE II.

Mrs. J. S., Westminster, S. C.; age 23; married; June 23, 1911.

Complaint.—Paralysis lower limbs; weakness and numbness upper extremities.

Family History.—Negative.

Past History.—Has always been healthy, although somewhat nervous; four healthy children; August, 1910, miscarriage; was sick four weeks; felt generally weak after same, but was able to look after her household.

Habits.—Absolutely negative to alcohol and drugs; very moderate as to coffee.

Menstrual History.—Normal.

Careful inquiry into her surroundings, etc., failed to reveal any possibility of a chronic or acute toxemia of external origin.

Present Illness.—Patient has never been really strong since her miscarriage in August, 1910, although she was able to look after her household duties. In the fall of 1910 she again became pregnant, and in December, 1910, she began to have vomiting spells, which occurred independent of diet. This condition gradually grew worse, and in January, 1911, patient became confined to bed on account of weakness, persistent and almost continuous vomiting.

In the early part of February, 1911, she was taken to Atlanta, Ga., to a hospital, where the uterus was emptied. She remained there about one month. Vomiting ceased, but from the history it appears that paralysis of the lower extremities was discovered. Moreover, the patient says that she has absolutely no memory of her condition or her surroundings from the time of the operation until the latter part of April. She remembers nothing about the operation; has no idea or remembrance of the special nurse who was with her over a month, of the doctors or the hospital. When she again realized her surroundings she felt as though she had

been asleep, and that several years has elapsed since her sickness in January. At this time she realized for the first time that her limbs were paralyzed; experienced pain; numb, cramp-like feelings in her hands, fingers and forearms; pain and soreness in both legs. The two sides were symmetrically affected. Patient returned to her own home in the early part of March, where she was under the care of her physician until she came to the University Hospital in the latter part of June, 1911.

Physical Examination.—Patient is very poorly nourished; white woman; seems to be in considerable pain; very emotional, crying almost constantly, which she says she cannot help; speech is normal; memory marked amnesia for recent events, patient being unable to remember the name of the hospital for even the shortest periods, the names of the nurses and doctors; a few moments after receiving nourishment denies having received the same, etc. For remote events, for occurrences preceding her visit to the hospital in Atlanta, her memory is very good.

Examination of chest, abdomen and pelvis yielded negative results.

Urine.—Quantitatively and qualitatively normal.

Blood findings are all normal. Stool negative. Temperature normal.

Respiratory rate normal; pulse 100-110.

Motor Functions.—Complete flaccid paralysis of both legs; double foot drop; marked weakness both thighs; weakness of muscles of both forearms, grip being very weak. Atrophy of the muscles of all four extremities most marked in those which are paralyzed and in the weakest muscles.

Contractures of the flexors of the leg, which prevent extension of the legs on thighs beyond an angle of 140 degrees; contractures of the posterior leg groups which prevent the flexion of the feet on the legs to an angle less than 110 degrees; both great toes are markedly flexed and held in this position by contracture of their flexor muscles. These contractures exist on both sides, but are slightly more marked on the left. Trunk muscles and diaphragm are normal.

No abnormal movements.

Co-ordination of upper extremities poor; of lower extremities not tested on account of paralysis.

Reflexes.—Tendo-achilles and knee reflexes absent on both sides; triceps present.

Epigastric present; plantar stimulation gives rise to excessive but delayed pain, with no plantar flexion of toes; Babinski absent.

Rectal and vesical reflexes are normal.

Sensory Functions.—Upper extremities tactile; pain and temperature sense are somewhat obtunded over hands, and lower part of forearm most marked in the peripheral distribution of the radial nerves; muscle sense normal. Trunk showed no sensory disturbance.

Lower Extremities.—Tactile; pain and temperature sense are markedly disturbed; disturbance of these senses varies from slight obtundation along inner side of thighs to more marked blunting with incorrect localization on outer side of thighs and inner side of legs to delayed transmission and almost complete anesthesia along the outer side; posterior aspect of legs and dorsum and plantar surfaces of feet; complete loss of muscle sense of toes.

Parasthesias.—Patient complains of numbness and tingling, burning and itching in all four extremities; more marked in the upper.

Nerves of upper and lower extremities are very tender to pressure; much pain of a burning, boring character complained of in all four extremities, more marked in lower.

Palpation and Trophic Disturbances.—The skin of both upper and lower extremities, especially in their peripheral portions, is constantly covered with a cold profuse sweat; are pale and mottled in appearance, and feel cold to the touch; nails of the toes are ridged and brittle.

Electrical Reaction.—Upper extremities, muscles all react to faradic current, requiring stronger currents than normal to bring about contraction of the small muscles of the hand; lower extremities, anterior thigh group react poorly to very strong current; anterior tibial group react to strong faradic stimulation of the nerve, but not to faradic muscle stimulation; all other muscles of lower extremities fail to react to faradic current, but respond more or less characteristically to galvanic stimulation.

Cranial nerves normal.

Diagnosis of Karsakow's syndrome was self-evident, and patient was placed upon proper treatment. Her improvement has been progressive; left the hospital two months after her entrance very much improved; sleeps well; has increased in weight; no longer emotional; pains are no longer a source of discomfort; the use of the upper extremities for all practical purposes are normal; sensation and motion are gradually returning to her lower extremities; her memory for recent events is very much improved, and, in fact, is so good that it is almost impossible to discover any lapses. She returns to her home to continue treatment, and her complete recovery is now only a question of a few months.

In conclusion, I wish to state that the neuritis which occurs during the pregnant or puerperal period differs in no respect from the neuritis which occurs at any other time, the only distinguishing feature in some of the cases being the source of the toxin that exerts its deleterious effect on the nervous system.

I take this occasion to acknowledge my indebtedness to Mr. E. S. Johnson, senior medical student at the University of Maryland, for the painstaking care he has taken in working up the history of Case II.

THREE CASES ILLUSTRATING LESS USUAL TYPES OF POLIOMYELITIS.

By *Tom A. Williams, M.B., C.M. (Edin.)*,

Corresponding Member Paris Neurological Society, etc.: Neurologist to Epiphany Dispensary, Washington, D. C.

I.

The clinical picture which follows is so unlike the older conception of poliomyelitis that it is worthy of record, as it deceived three physicians at the head of their profession in their prospective generations. The patient was a boy of six whom I saw at Warrenton, Va., September 3, 1910. His illness had begun on July 8 with a fever and malaise, from which he seemed to recover until attacked four days later by a paralysis of spastic type. Dr. Hicks then consulted with Dr. Hardin of Washington, with whom I saw the case later, and who informed me that the child's left arm was held in rigid flexion and that the right leg was also spastic. So great was the rigidity that no deep reflexes could be elicited. But that the pyramidal tract was implicated was shown by the extension of the great toe in stroking the sole. Kernig's sign was present on the right side, and there was pronounced rigidity of the back, but not of the neck. Great hyperesthesia was present. Dr. Hardin then diagnosed spinal meningitis. Dr. Spencer of Washington later saw the case and pronounced it a meningismus. When movement returned it was ataxic and difficult at first. A good deal of pain persisted for several weeks, but even when these phenomena ceased the child's right leg was left weak, and he would sometimes fall down, so that I was asked to see him.

I found absence of the deep reflexes in the right lower limb and a diminution of the left patellar reflex. The toe sign was normal, as was the sensibility.

Motility.—The walk was clumsy, and the child inclined over his right leg. Examination showed that right ham-strings were decidedly weak, the sural muscles less so, the quadriceps femoris slightly weak, and the left arm weaker than the right. The right thigh was three-quarters of an inch and the right calf one-half inch smaller than the left, respectively. Poliomyelitis, of course, was responsible for the defect and for the preceding spastic paralysis also.

II.

A still graver implication of the meninges occurred in a child of six whom I saw at Rockville, Md., with Drs. Linthicum and Mannar this summer. Slowly increasing and ascending spasticity of the lower limbs ushered in the disease along with fever. I found the child lying stiffly in bed, but not in great pain. The deep reflexes were absent even from the arms, though these were not rigid. No reaction was obtained from abdomen or toes. Brudzinski's sign was absent, but there was a pronounced Kernig. Voluntary movements of the lower limbs could not be made, and those of the

arms were weak. The pupils were widely dilated, but there were no other cranial nerve symptoms. The child was admitted to hospital in Washington, and a lumbar puncture made to make sure of the absence of the diplococcus intracellularis, although I believed the case to be poliomyelitis. The rigidity increased, and the child died three days later before I could see her again. Permission was obtained to examine the brain post mortem, but no changes were found there. The examination of the cerebro-spinal fluid was not made by a modern technique, and so added no light to the case.

III.

Just as unlike the textbook picture as the preceding meningeal inflammations is the following case, where the disease attacked mainly the medulla and pons, involving there not only some of the nuclei, but also the pyramidal and rubro-spinal fibers. The function of the former is generally known, but that of the latter has a clinical importance of comparatively recent discovery. Its fibers carry impulses from the red nucleus of the mid-brain, which, in turn, are derived from the cerebellum. Their function is to regulate the muscular tonus, and when they are interfered with dysnergia results.

A Case of Bulbar Poliomyelitis.—After one week of malaise and constipation, a girl of four years developed what was believed to be a sore throat, the neck being held stiff. Two days later Dr. Copeland first saw her, and found clear rigidity of the neck, slight Kernig's sign, a scaphoid abdomen and exaggerated patellar reflexes. The child was apathetic.

These signs of meningeal irritation created a suspicion of an invasion by the diplococcus intracellularis, especially as during the next four days the apathy increased to the point of unconsciousness, swallowing became more and more difficult, and the respiration slowed to a threatening of failure.

There also developed a large intention-tremor of the right arm and leg, and the power of articulation disappeared.

The dysphagia led to removal to a hospital, so that skilful feeding could be secured. Dr. Copeland did not ascertain whether or not it was spasm or paralysis of the pharyngeal or other muscles which prevented swallowing, but the history and other symptoms point to paralysis as the likelier cause.

During this time the patellar reflexes disappeared, and poliomyelitis was suspected.

The limbs were no longer rigid; nor was there distinct flaccidity. The plantar responses had not been that of Babinski.

It was two weeks after onset when I saw the child. She then showed a slight concomitant strabismus and distinct facial asymmetry, the folds upon the right side being much more distinct; but there was no apparent diminution of facial movements. The neck was turned to the left, and appeared to be more able to turn in that direction against resistance than in the contrary direction.

I could detect no inequality of power in the movements of the

hands and arms, neither being used very strongly. Shyness or apathy may explain this. The extension of the right leg upon the thigh was distinctly weaker than that of the left side. I could detect no inequality in other movements, but none were vigorous for the strong child she seemed.

In walking, however, progress was dysnergic, more especially in the right leg; the base was widened by spreading the legs, and she tended to utilize the support of the furniture when within reach.

The reflexes were all brisk, but the force with which the right leg extended on tapping the patellar ligament was much less than that of the left. The abdominal reflexes were present, as were the plantar; but the reflex of the right foot was less complete than that of its fellow, and a wide spreading of the outer toes when the sole was stroked (the fan sign) gave clear evidence of a slight impairment of the function of the pyramidal fibers somewhere in their course.

Babinski's combined flexion sign was seen at the right groin when the child rose up to sitting posture, and when she lifted the leg from the bed the contralateral pressure on the right heel was less than when the left one pressed on the bed.

The mother reported that the child had lost her cheerfulness and was both apathetic and querulous.

The child recovered almost completely.

1758 K Street, Washington, D. C.

A MANUAL OF THE DISEASES OF INFANTS AND CHILDREN. By John Ruhräh, M.D., Professor of the Diseases of Children in the College of Physicians and Surgeons, Baltimore. Third revised edition. 12mo of 534 pages. Fully illustrated. Flexible leather, \$2.50 net. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1911.

The present edition of this little volume comes off the press more thorough and useful in every detail, and should command the same cordial reception of its predecessors. Through teaching experience and temperament Dr. Ruhräh is naturally fitted to book-writing. One should not surmise because the volume is dubbed a manual that the book is skimpy in its treatment of the diseases of infancy and childhood, for such is not the case. The author, however, has thoroughly realized that some sections demand more attention than others. Its chief field of usefulness is as a quick reference-book for students and physicians in general. As such it has more than ordinary merit. An especially valuable and attractive feature is the chapter on therapeutics for infants and children. Here at a glance one is enabled to learn the appropriate dose suited to the ages six months, one, two, three and five years. Although the book is not a complete treatise by any means, still it is sufficiently full for the purpose for which it was intended. We are very well pleased with the present edition, and predict for it the same success as enjoyed by its predecessors.

UNIVERSITY HOSPITAL LABORATORY REPORT ON THE WASSERMAN REACTION.

By H. J. Maldeis, M.D.,

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THE technic of the Wasserman reaction, which is an adaptation of the Bordet-Gengou phenomenon of complement fixation, has been fully explained and elaborated upon by many competent serologists. The current literature for the past few years has been replete with many interesting and noteworthy articles on both the original method and its many modifications, and also results obtained in its application. Like many other diagnostic methods, it has been severely criticised, and at times condemned, this probably being due, in part, to the inexperience and improper interpretation of some observers. The technic is difficult and intricate, and requires a great deal of time, therefore, unless it be modified, it is of no value, except in the hands of the trained laboratory worker. In its present form it is impossible to carry it out in the average office, because it requires special equipment.

This reaction is of value to the general practitioner, and also specialist. It reveals syphilis with such certainty that many would not dispense with it. No claim has been made that the test is infallible, while a positive reaction, dependent as it is upon the presence of syphilitic antibodies in the blood serum, due to the activity of the spirochaeta or treponema pallidum which are lodged in various parts of the body, means syphilis with but few exceptions. A negative finding is also observed in luetic conditions, these being partly inexplicable: fortunately, they occur so rarely that they do not mitigate against the efficacy of the test.

In cases of obscure symptoms, and also in cases where the history is often absolutely misleading or undependable for various reasons, and likewise in innocently acquired infection, this test is of infinite value. The test is of recognized value as a guide for therapeusis, regardless of the method of treatment, whether salvarsan (606), by inunction, by mouth or by hypodermic injection. It should be made before instituting the treatment and at four to six weeks' intervals, especially if 606 is given, or longer intervals if other forms of medication are used, to determine if further treatment is necessary. When the case gives a negative reaction, it should still be kept under observation and the test made until persistently negative. If this method were carried out, it would mean the lessening of the occurrence of those unfortunate vicious visceral, spinal and cerebral syphilitic lesions, and even the so-called para-syphilitic conditions—locomotor ataxia and general paresis.

REPORT OF CASES.

In primary syphilis results vary, ranging from 98 per cent. (Detre) to 38 per cent. (Hochne). In many cases of chancre a negative Wasserman is often noted.

In mixed infection (chancre engrafted on chancroid), and also primary lesion, the test isn't always necessary; a microscope with attached 'condenser for dark field illumination' or smear examination, specially stained, will suffice. Number of cases examined by the writer were 16. In 75 per cent. the reaction was positive.

IN SECONDARY SYPHILIS.

The highest figures are those of Boas, who got 100 per cent. positive reactions in 395 cases. The lowest recorded was by Hochne, being 79.1 per cent. positive reactions in 329 cases. In 63 cases the writer got a positive reaction in 58, or 92.4 per cent.

IN TERTIARY SYPHILIS.

The number of positive reactions vary from 57.4 per cent. (Bruck and Stern in 47 cases) to 100 per cent. (Bruhns and Halberstädter in 16 cases). The writer had 29 cases; 24 were positive—82.6 per cent.

EARLY LATENT SYPHILIS.

Cases showing late secondaries without symptoms: The figures vary from 20 per cent. (Bruck and Stern in 50 cases) to 85 per cent. (Wasserman and Neisser in 41 cases). Report 11 cases: 7 gave a positive reaction, or 63.6 per cent.

LATE LATENT SYPHILIS.

The figures are about the same as the above. The writer had 14 cases, 64.2 per cent. showing a positive reaction.

GENERAL PARALYSIS.

The results obtained so far have been fairly constant. The results of Kaplan's cases (in a report mentioned in Noguchi's book on "Serum Diagnosis of Syphilis") give a positive reaction of 44 cases out of 61, or 72 per cent., by the Noguchi method. The writer made Wasserman's on 6 cases, with 50 per cent. positive reactions.

HEREDITARY SYPHILIS.

The lowest positive per cent. noted was 87.5, whereas most investigators report 100 per cent. Noguchi has said, "It is difficult to get rid of a positive reaction, even after a most vigorous interference in hereditary lues." The writer reports 4 cases with a positive reaction of 100 per cent.

CEREBRO-SPINAL LUES.

Results vary from 16 per cent. (Hochne in 12 cases) to 88.5 per cent. in 26 cases, reported by Ledermann. Out of 10 cases the writer had a positive reaction in 70 per cent.

TABES.

The percentage of positive reactions varies from 40 to 80 per cent. Noguchi reports 125 cases with 68 per cent, positive reactions. Kaplan reports 205 cases with positive reactions in 65 per cent. The writer had 9 cases, 66.6 per cent, giving a positive reaction.

LUETIC CASES UNDER TREATMENT.

Many investigators have studied these cases to determine the effect of treatment, and they report that after a short course the reaction will often disappear. However, in many of these cases the reaction will again become positive if treatment is interrupted for a long time, or remain positive from the beginning of treatment for an indefinite time. To illustrate this, the series of cases reported by Hochne may be mentioned. In all, there were 211 cases giving a positive reaction before treatment. In 56 per cent, the reaction disappeared. However, in 33.9 per cent, the reaction remained positive. The writer had 37 cases giving a positive reaction. These were under long and short courses of treatment, in some cases varying from a few months to several years; in 17 the reaction became negative. In some of these cases several tests were made at regular intervals while the patients were still under treatment, and the reaction continued negative. In a few cases, when treatment was discontinued for a month or longer, the reaction again became positive.

CASES FOR DIAGNOSIS.

In a series of 333 cases (Noguchi) in which syphilis can be excluded clinically with a fair degree of certainty, the following results were obtained: Twelve were positive, 313 were negative and 8 were doubtful.

In a series of 132 cases (Noguchi) in which syphilis is an etiological factor, or cannot be excluded as a possible cause of the condition, the following results are of interest, 46 positive, 81 negative and 4 doubtful.

In many cases of eye diseases, including keratitis, iritis, optic neuritis especially, a fairly constant reaction has been noted. The writer had 4 cases; 3 were positive. In psychiatric cases there has been reported a positive reaction in about 13 per cent. However, in epilepsy, many investigators have gotten positive reactions in from 30 to 40 per cent. of cases. The same is true of idiocy and imbecility. The writer had 5 cases, of which number 2 were positive, or 40 per cent.

The writer had 62 cases for diagnosis, in many of which syphilis was not clinically an etiological factor, including cirrhosis of liver, aortic insufficiency, chronic arthritis, hemiplegia, brain tumors, eczema, carcinoma, sarcoma, adeno-sarcoma, tuberculosis, Banti disease and neurasthenia.

Result of Wasserman:

| | Number of Cases. | Positive Reaction. |
|---------------------------|------------------|--------------------|
| Cirrhosis of liver..... | 3 | 2 |
| Aortic insufficiency..... | 5 | 4 |
| Chronic arthritis..... | 6 | 2 |
| Eczema..... | 2 | .. |
| Hemiplegia..... | 7 | 3 |
| Brain tumor..... | 5 | 2 |
| Carcinoma..... | 3 | 1 |
| Sarcoma..... | 1 | .. |
| Banti disease..... | 2 | 1 |
| Adeno-sarcoma..... | 1 | .. |
| Tuberculosis..... | 6 | 1 |
| Neurasthenia..... | 5 | 1 |
| Miscellaneous..... | 16 | 7 |
| | — | — |
| | 62 | 24 |

Or 38.7 per cent. positive.

The technic of the reaction has been purposely omitted, because it has been fully explained in medical literature.

Only enough cases have been mentioned in this report to give an idea of the worth of the Wasserman test, and also as a comparison between results obtained by other workers in this field and the writer.

The writer desires to acknowledge the courtesy of those in charge of the genito-urinary department of the University Hospital for the many patients placed at his disposal, and also the clinical professors of medicine.

Included in the above report are also private outside cases.

SUPPLEMENT TO ABOVE REPORT.

Since this report has gone to press, 35 additional Wasserman's have been made, making a total of 305 cases.

The following results were obtained in the additional cases:

| | No. of Cases. | Pos. | Neg. | Doubtful. |
|--------------------------|---------------|------|------|-----------|
| Primary lues..... | 2 | 2 | .. | .. |
| Secondary lues..... | 5 | 3 | 1 | 1 |
| Early latent lues..... | 4 | 3 | 1 | .. |
| Late latent lues..... | 7 | 5 | 1 | 1 |
| Tertiary lues..... | 5 | 4 | 1 | .. |
| Cerebro-spinal lues..... | 1 | 1 | .. | .. |
| Under-treatment..... | 5 | 1 | 3 | 1 |
| Cases for diagnosis..... | 6 | 2 | 4 | .. |

SOME TENDENCIES IN MEDICAL EDUCATION IN THE UNITED STATES.*

By *Lewellys F. Barker, M.D.,*

Baltimore.

Professor of Medicine in Johns Hopkins University and Physician-in-Chief to Johns Hopkins Hospital.

THAT brilliant and humorous journalist-novelist, Mr. Arnold Bennett, in his essay on "Success," says: "I feel that it is as dangerous to tell the truth about success as it is to tell the truth about the United States, but, being thoroughly accustomed to the whistle of bullets around my head, I will nevertheless try." Whatever grain of fact there may be in his allusion, certain it is that in the United States themselves there is a strong tendency at the present time to try to tell the whole truth about medical conditions there. As regards medical education, the men who are really interested in the matter are making no attempt to blink the facts. Those who write and speak seem determined to deal with the subject in a thorough and candid manner. The discussion has led, and is leading, to marked changes in the standards and circumstances of medical instruction, medical research and medical practice "on the other side of the line." To some of the truth concerning medical conditions, and to some of the burning questions at issue, I desire to point.

THE PASSING OF THE INFERIOR MEDICAL SCHOOLS.

If you compare medical education in the United States 20 years ago with what it is today, you cannot help but be impressed with the remarkable change which has taken place. The period has witnessed a reform which is noteworthy in history. During the past decade, especially, there has been a steady decrease in the number of inferior medical schools and an elevation of standards in the better schools. The country has passed rapidly from a stage in which the proprietary medical school was dominant to one in which all, or nearly all, of the better medical schools are the medical departments of universities.

It was not an easy thing to bring such a change about. Every reform entails hardships; attempts at betterment invariably excite some animosity and antagonism. It says much for the spirit of the men in the medical profession and in the faculties of the medical schools that the majority of them have kept in mind the welfare of the profession, of medical education and of human service, and have been so ready to sacrifice their private interests when such self-denial was demanded.

*Based on remarks made at the convocation exercises at McGill University, Montreal, June 5, 1911.

NOTE.—This article appeared in abridged form in the *Journal of the American Medical Association*, August 19, 1911.

REDUCTION IN THE NUMBER OF MEDICAL SCHOOLS.

The total number of medical schools in the United States is still being rapidly reduced. This reduction is taking place in two ways —first, by extinction of the most unfit, and secondly, by the merging of numbers of feeble schools into larger and more efficient institutions. In 1904 there were 166 medical colleges in the United States. Within the succeeding lustrum the purificative movement had made such progress that in 1909, though 25 new medical schools had been organized, 43 had been closed, 16 by extinction and the balance by merger with other schools. This process of suppression of schools and of amalgamation of schools has been continuing since, and it is hoped that the examples set by the medical schools in Louisville, Ky., and in Cincinnati may be followed, especially in large cities like Baltimore, Chicago and Philadelphia. The absurdity of having more than a dozen medical schools in a city like Chicago is obvious. Imagine the medical state of Berlin, Vienna or Paris were the powers of medical instruction there similarly disintegrated!

INCREASED REQUIREMENTS FOR ADMISSION. ELEVATION OF STANDARDS IN TEACHING.

This reduction in the number of medical schools with survival of the better has been due less to direct attacks on the poorer schools than to a rapid elevation of the standards of admission to and improvement of the teaching in the better institutions. Some day the history of this advance should be carefully written. Intricate and complex as have been the factors of this progress, we may easily, on attention, disengage the main influences which have been responsible. Among them, it is now generally admitted, were (1) the initiation of a graded course as far back as 1859 by the medical department of Northwestern University in Chicago; (2) the adoption of this and the gradual increase of admission requirements and improvement of the curriculum in which schools like Harvard set the pace and, further (3), the step taken in 1893 in the organization of the Johns Hopkins Medical School. The latter, an integral part of a strong university, opening its doors to students in that year, made several departures from established custom. It announced that candidates must present as a prerequisite for admission evidence of having had an education corresponding to that required for the baccalaureate degree in a good college of liberal arts; in addition, either when working toward this degree or subsequently, a year's laboratory training in physics, chemistry and biology must have been completed and a fair reading knowledge of the French and German languages acquired. With an endowment, part of which was given on condition that these requirements for admission be maintained, and that women be admitted on equal terms with men, this school was able not only to establish well-equipped laboratories of anatomy, physiology and pharmacology in addition to the laboratory of pathology which had been built earlier, but to secure a group of men for the non-

clinical chairs who had been trained especially in their respective sciences, who had no desire to practice medicine and who were willing, on salary, to devote their whole time and energies to instruction and research. More important still, an endowed hospital, which had been organized a few years earlier, stood at the disposal of the medical school. In the donor's will it had been expressly stated that the hospital should "ultimately form a part of the Medical School of the University," and, accordingly, the professors in the clinical branches in the medical schools are, simultaneously, the chiefs of the clinics in the hospital, and the professor of pathology the head of the pathologic laboratory to which the clinics send their dead.

Since that time the medical departments of many other universities have increased their equipment and provided larger means for professorships, especially in the non-clinical branches; several schools now require a college degree for admission; no less than 27 schools demand as a minimum for entrance two or more years of work in a college of liberal arts—a gratifying showing when it is recalled that up to 1904 less than 2 per cent. of all medical colleges required more than a high-school education as preparation. The success of the better schools, the enthusiasm of the students trained in them, the opportunities which have opened up for these students after graduation, the scientific investigations leading to publications which have been carried on—all have contributed to spur other medical schools in different parts of the country to emulate the examples set.

There has been two main difficulties—(1) the financial one of equipping the expensive laboratories of anatomy, physiology and pathology and paying the staff sufficient amounts to permit them to devote their whole time and energies to the work; (2) the absence of endowed hospitals under the control of medical schools or universities, into the wards, dispensaries and laboratories of which students could be taken actually to participate in the routine work of diagnosis and treatment.

Lively discussions on (1) medical education, (2) the preliminary requirements therefor, (3) the endowments needed, (4) the character of the staff necessary, (5) the importance of university supervision and (6) the necessity of laboratory and bedside instruction instead of preponderantly didactic teaching did much to spread a new gospel. These debates were carried on by the faculties of the medical colleges themselves, by the associations of medical colleges, by the associations of American universities and by the members of the various State examining boards.

AGENCIES INFLUENTIAL FOR REFORM.

One of the most potent of the agencies for the elevation of standards has been the Council on Medical Education of the American Medical Association, a permanent committee of six men,¹

¹Dr. Bevan, Chairman; Dr. Colwell, Secretary.

appointed expressly for the purpose of improving medical education and making it more uniform throughout the whole country.

One interested in medical education will have difficulty in finding more interesting reading than the annual reports of the conferences held since 1905 by this council. The discussions on admission requirements, on curricula, on university relationship and on the functions of State boards, and the reports made (1) on the standing of the various medical colleges, based on the failures of their graduates in examinations before State boards, and (2) on the results of a personal inspection of all medical schools in the United States, made by members of the council, have had an effective influence in awakening the profession to the pedagogic problems which confront it, and, especially, to the desirability of speedy and radical reform. The grouping of medical schools by this council into "acceptable" colleges, "conditioned" colleges and "rejected" colleges may be adduced in illustration of methods salutary in results.

The council has performed its work almost wholly through the cultivation of medical opinion; it simply gives publicity to the information which it collects. It has no power whatever to dictate to medical schools or to set standards either for the schools or for the State examining boards, but it has so deliberately and successfully, through the currency given to the results of its inquiries, worked on the collective medical mind in the United States, that a moral pressure, irresistible in its coercive force, has come to be exerted. A school, for example, which is heralded in the over 50,000 copies of *The Journal of the American Medical Association* as one which turns out graduates of whom more than 20 per cent. fail at the State licensing examinations, or another, which, after personal and unbiased inspection by members of the council is classified as a "rejected" school, has a sealed fate.

The council has been none the less successful for having avoided Utopian attempts; it has been satisfied with a gradual, though steady, stride toward attainable ideals. It recognizes the manifold difficulties of the pedagogic situation, is aware of the necessity of taking time, of educating those concerned and, especially, of the indispensableness of endowment from the State or from private funds if desired reforms are to be instituted.

Another agency which has been active and effective in the attempt to help on the reconstruction of medical schools in the United States is the Carnegie Foundation for the Advancement of Teaching, which, in 1908, with Mr. Pritchett as president, authorized Mr. Abraham Flexner to study and report on the various American schools of medicine and law. Since the year 1876, when the Vienna surgeon, Billroth, published his *Ueber das Lehren und Lernen der medicinischen Wissenschaften*, the monograph by Abraham Flexner² is, without doubt, the most important single

²Flexner, A.: Medical Education in the United States and Canada: A Report to the Carnegie Foundation for the Advancement of Teaching.

contribution which has been made to the bibliography of medical education. The study and report were made on the assumption that medical colleges and the medical departments of universities must now be regarded as public-service corporations, and that the public is entitled to know about their administration and development, both on the financial and educational sides, for only through a reasonable publicity can progress in medical education be hoped for.

The report contains a history of medical education in the United States and Canada, comments on its present status, gives a forecast of possible progress in the future and describes more or less in detail each medical school in existence in the various States and in the Canadian provinces at the time it was made. Mr. Flexner concludes that during the past quarter of a century there has been an enormous overproduction of uneducated and badly-trained medical practitioners, and that this overproduction of poorly-trained men is mainly due to the existence of a great number of "commercial" schools attracting into the study of medicine unprepared boys who should have taken up industrial occupations. The poorer schools have failed, it is asserted, to appreciate the remarkable advance which the better schools have made, and they underestimate the amount of money required to defray the expense of teaching by modern methods. Stress is laid on the fact that a hospital under complete educational control is as necessary to a medical school as is a laboratory of chemistry or pathology. A great reduction in the number of medical schools is recommended, better equipment and better conduct asked of those that remain and the graduation from each of fewer physicians, but of better quality, demanded. Methods of properly articulating the medical school with the other parts of a university and with the general system of education are outlined. The university which is willing to retain a low-grade professional school for the sake of its institutional completeness is sharply censured. Further, though the impossibility of suddenly bringing all the persisting schools up to praiseworthy standards is recognized, it is urged that if a school cannot rise to a certain minimum of educational requirement, it should cease to exist, for it will injure, and not help, civilization.

The tone of this bulletin is frankly that of "shirt-sleeve diplomacy"; by some, its statements have been regarded as unnecessarily harsh and stringent: indeed, the question has been raised by at least one of the schools most severely criticized whether some of its statements might not be so defamatory as to give grounds for legal action for damage to reputation. But, however one may feel as to the relative desirability or success of the method of persuasion by praising the best and the method of compulsion by brandishing the "big stick," certain it is that this report was made only after extensive investigation and prolonged consideration, and that it has exerted, in the brief interval since its appearance, an immense influence for good on the faculties of medical schools.

on members of the medical profession and, through the newspapers, on the general public.

Through the various influences above mentioned inferior medical schools are rapidly being weeded out, and the schools left are steadily being improved. The nation has set itself resolutely to the task of reconstruction, and it will not rest satisfied until its medical schools have reached a degree of efficiency and attained to a power of public service which will bear favorable comparison with similar institutions anywhere in the world.

POSITION OF AND SOME TENDENCIES IN THE NON-CLINICAL DEPARTMENTS.

On examination of the non-clinical departments of the better medical schools in the United States it will be seen that a definite policy has been established; the principles of this policy must sooner or later be observed by every medical school which hopes that its conduct may be held in good repute.

THE POLICY ESTABLISHED.

The essentials of the policy include (1) commodious laboratories equipped with all modern appliances for teaching and investigation in anatomy, physiology, pharmacology, biochemistry and pathology; (2) "full-time" professors with, for the more part, "full-time" assistants, trained or undergoing thorough training in these fundamental principles, men who are enthusiastic teachers and have a zest for, and success in, prosecuting original inquiries, and (3) an annual budget at the disposition of the staff adequate for improvement of equipments, for supplies and expenses and for the services of janitors, clerks and mechanical assistants. These departments are, therefore, not only places in which well-organized courses of instruction for medical students are offered; they are also centers in which knowledge is seethingly advanced.

Under this policy the non-clinical departments are flourishing. Glance through *American Men of Science* and make lists of those who have been led to cultivate these fields and have been notably successful in the work. You find an imposing array. Look over the journals, most recently founded, devoted to the different subjects and the proceedings of the scientific societies and you will be gratified to find how speedily and notably knowledge has been and is being increased.

The best American work is receiving adequate foreign recognition, and while but few European students have thus far been attracted to American non-clinical laboratories for work, the stream of students which formerly flowed in the other direction has to a large extent ceased.

DANGERS THREATENING THE NON-CLINICAL DEPARTMENTS.

The non-clinical chairs in the medical schools may be to a certain extent, however, in danger. The possibility of evil has arisen not at all through hostile intention, but rather through certain conditions, partly external, partly internal, which may place them in

a trying situation. Of these conditions I shall refer now only to three, viz., (1) the rise of institutions devoted solely to research, (2) the rapid formation of medical faculties in State universities and (3) the pecuniary penalty attaching to chairs on a "university basis."

THE RISE OF INSTITUTES FOR RESEARCH.

In both Europe and America, men of wealth on the one hand and governmental departments on the other, impatient for science to progress, have been endowing institutes devoted purely to investigation in the medical sciences, free from any necessity of teaching. The Pasteur Institute of Paris is a notable example; the Institute for Infectious Diseases and the Laboratory of the Government Health Office in Berlin and Ehrlich's Institute for Experimental Therapy in Frankfort-am-Main are German instances; in the United States may be mentioned the laboratories for investigation of cancer, the government laboratories for medical investigation in the Army and in the Marine Hospital Service in Washington, the Rockefeller Institute for Medical Research in New York, the Carnegie Laboratory for the Study of Nutrition in Boston, the Memorial Institute for Infectious Diseases in Chicago, the Sprague Laboratory for Medical Research in the same city, the Phipps Institute for Tuberculosis in Philadelphia, the Wistar Institute of Anatomy in the same city and the Cushing Laboratory of Experimental Medicine in Cleveland. Such research institutions give unusual facilities for the pursuit of original inquiries; by virtue of this fact and their large endowments they permit of larger rewards in the way of opportunity for work, fame and salary than are possible in ordinary university positions. As a result, able and distinguished investigators who otherwise would have been available for the medical faculties cease to be accessible to them; though the sciences themselves enjoy enrichment—undoubtedly these institutions are fully justifying their creation—the strength and vitality of the school-corps is correspondingly depleted. When possible, such research institutions should be placed contiguous to the buildings of a medical school, in order that the latter, even if separately administered, may benefit by their atmosphere. What a pity that the universities have been so short-sighted that they have not foreseen the desirability and ultimate necessity of a division of labor in the non-clinical departments among professors whose function is predominantly teaching, and professors whose function is predominantly investigation!

THE LARGE AND SUDDEN DEMAND FOR PROFESSORS.

The second condition, the rapid formation of medical faculties in State universities, as well as the fusion of groups of schools into single stronger schools, has created a demand for a large number of so-called "whole-time," non-practitioner professors of anatomy, physiology, pathology, etc. This demand has been greater than could be fitly supplied. Only a few men adequately prepared for high positions have been trained; moreover, in many of the insti-

tutions the positions, though high in rank, are still low in facilities and salary. In time the public will become sufficiently educated to make proper provisions in the State universities for equipment and salaries. As yet, in only a few State institutions can it be said that this has been done. The effect likely to be produced sooner or later can be foreseen. There is danger that the cradle of the science nurseries will be robbed. Many lusty infants might, despite their premature parting from parental props, grow speedily and satisfactorily to adulthood, leaping, as it were, over adolescence, but in some instances, surely, we would see an arrested development. Thus, through the exit at the top of many of the best and through the entrance at the bottom of too many immature and partially trained, the high standards thus far maintained for the non-clinical chairs run some risk of depreciation. At present, positions, such as they are, can be obtained too easily; the period of training is so shortened as to make the attainment of a high grade of scholarship difficult. There is the dangerous possibility, too, of promoting to full professorships men of mediocre talent, who, in a longer and more exacting discipline, would find their true academic level, or would gradually be weeded out in a competition in which the prizes were larger and the number of intellectually superior contestants more extended.

THE FINANCIAL STATUS OF THE PROFESSOR.

And, thirdly, perhaps even a graver matter, because it affects not only the occupants of the non-clinical chairs of the medical faculties, but those of the chairs in the colleges of liberal arts as well, is the financial status of the professor in the United States. This important question has, as far as colleges and universities in general are concerned, been made a topic of especial study by the Carnegie Foundation for the Advancement of Teaching, and the results of the study have been published in its Bulletin 11 (1908). In 100 leading colleges of the United States and Canada the average salary of the full professors varies from \$1350 to \$4500, the average of all being about \$2500 per year. There are no large financial prizes that can be looked forward to anywhere, the maximum salary being \$7000 or \$8000, and only a very few places yield this. If larger salaries were given anywhere, even though the chairs enjoying them were few, the larger material potentialities of the professor's calling might exert a favorable influence. There are 35 institutions known as colleges in which the average salary for full professors is less than \$500 per year. The average salary for full professors in the Johns Hopkins University is stated to be \$3184.

Of course, in professional and in engineering schools the professors' salaries are somewhat higher than in the arts department. But the maximum salary for a non-clinical chair of a medical department, except possibly in New York City, is, as far as I know, \$5000. The average salary in the 20 best medical schools would doubtless fall far below this level. It is to be remembered.

of course, that a \$3000 salary in Ann Arbor will go perhaps as far as, or farther than, a \$5000 salary in Chicago. The occupants of non-clinical chairs like those of the chairs in the arts departments have little means of supplementing their salaries by outside work. Some of them do executive work which yields small additional emoluments; some write textbooks which, if successful, bring in a modest amount in royalties; now and then a professor receives extra pay as a member of a Federal, State or municipal commission of experts. There is no income, or very little, from consultation practice, for anatomists, physiologists and pathologists have but rarely had the clinical training necessary to make them expert diagnosticians and therapeutists; moreover, a code of ethics has gradually developed which goes far to prevent such professors from engaging in the practice of medicine, except possibly a limited consultation work, even when their experience has been such as to make them equal to it. The feeling prevails that such outside work, so different from that of his regular activities, lessens a professor's opportunities for scholarly study by its encroachment on his time and energies and detracts from the dignity, simplicity and highmindedness of the teacher's calling. There are, of course, as the investigators of the Carnegie Foundation point out, a few men, of unusual energy or endowed with special financial sagacity and initiative, who will easily supplement their regular incomes, no matter what profession or business they may be engaged in, but men of this kind are rare, and it is probably not common to find the type especially attracted by the love of abstract studies, the quiet of the scholar's life or the particular sense of power over youth which is characteristic of the feeling of a great teacher.

That some great teachers and investigators are attracted to the non-clinical chairs despite the small material rewards and the heavy financial and social penalties pertaining to the positions has been fully demonstrated; that some will continue so to be attracted we can be sure. Men who inordinately love gain and material advancement are not likely to work toward professorships; it is perhaps well that the professorial class is recruited elsewhere. The power of disinterested scientific creation and the passion for truth and research are seldom cerebrally compatible with the money-getting gift, the capacity to devote one's self to, and to keep the mind concentrated on, financial gain. The life of a professor is necessarily simple and frugal; his wife can make no pretense to the absurd and vulgar extravagance that Irving Bacheller facetiously and satirically describes as "keeping up with Lizzie." The career of a professor is often, however, one of profound influence and of steady happiness, of high honor and well-deserved respect, and these are rewards not likely to be regarded lightly among the more idealistic of our youth.

(To be continued.)

Book Reviews.

MANUAL OF THE DISEASES OF THE EYE. For Students and General Practitioners. By Charles H. May, M.D., Chief of Clinic and Instructor in Ophthalmology, College of Physicians and Surgeons, Medical Department, Columbia University, New York, 1890-1903; Attending Ophthalmic Surgeon to the Mt. Sinai Hospital, New York; Consulting Ophthalmologist to Bellevue Hospital, to the French Hospital, to the Red Cross Hospital and to the Italian Hospital, New York. Seventh edition, revised, with 362 original illustrations, including 22 plates, with 62 colored figures. Cloth, \$2 net. New York: William Wood & Co. 1911.

We predict for the present edition of May on Diseases of the Eye as great a popularity as any of its predecessors. It is written in the same inimitable style and has been brought up to date. Even such a late discovery as 606 and its present status and uses in eye affections has been included in the text. Amongst other additions may be mentioned Lagrange's operation for glaucoma, trachoma bodies, the ocular manifestations of general diseases, injections of tuberculin, etc. As formerly, it is one of the most reliable small books on ocular maladies, and the author in the present edition has succeeded admirably in keeping the number of pages within reason, still at the same time giving his readers a very comprehensive survey of eye troubles and the best methods of handling them. It will be found the same reliable book as of yore and should immediately insinuate itself into the student's favor.

HANDBOOK OF SUGGESTIVE THERAPEUTICS, APPLIED HYPNOTISM, PSYCHIC SCIENCE. A Manual of Practical Psychotherapy, Designed Especially for the General Practitioner of Medicine and Surgery. By Henry S. Munro, M.D., Omaha, Neb. Third edition, revised and enlarged. Cloth, \$4 net. St. Louis: C. V. Mosby Company. 1911.

Undoubtedly too little attention has been paid by regular physicians to psychic influences in the handling of his patients. It is a well-recognized fact that of two men of equal ability one makes a success of his vocation and the other fails. This is attributed to the pleasing personality of the successful man. In other words, one is able to impart confidence in his clientele and the other is not, which is only another way of saying the successful physician has a psychic influence over his patients. Dr. Munro's book is for the purpose of better acquainting the physician with the various forms of psychic force and how to apply them successfully. It goes into every detail of the influence of the mind over the body, what can be done and how to accomplish it. One well versed in psychotherapy has a distinct addition to his therapeutic armamentarium. As medical schools of today neglect this important feature in the handling of the various neuroses and other afflictions, the book of Dr. Munro fills a long-felt want. It is written

in a charming style, and every page bears the impress of the conviction of the author that he is master of his subject. In this volume one is supplied with such material as the relation of psychotherapy to the general practice of medicine, the scientific basis of psychotherapy, the general utility of suggestion, hypnotism demonstrated, the psychotherapeutic value of suggestion, hypnotism therapeutically applied, suggestion as an adjunct in the administration of anesthetics, psychotherapy in relation to the expectant mother, the guidance of the sexual instinct, psychoanalysis in the treatment of the neuroses, roughing it as a means of health, personality as a factor in therapeutics, the abuse of personality, suggestion in education, self-mastery as a fine art, and any amount of other good and useful suggestions. One is struck in reading the volume with the simplicity of the language and the methods employed, and the large range of usefulness of psychotherapy in the treatment of disease. The style is so simple that any general practitioner can easily comprehend the meaning of the author and can for himself test the various suggestions offered. The book is admirably adapted to the needs and requirements of the general practitioner, to whom it is mainly addressed, for which reason it is shorn of technical terms and theoretical discussions, and embodies only that which the author in his practice has found of practical value.

STRUCTURES AND FUNCTIONS OF THE BODY. A Handbook of Anatomy and Physiology for Nurses and Others Desiring a Practical Knowledge of the Subject. By Annette Fiske, A.M., Graduate of the Waltham Training School for Nurses. 12mo of 221 pages. Illustrated. Cloth, \$1.25 net. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. 1911.

This book differs from books of its character by considering the general composition of the body first, the tissues of which the body is composed. Then the head, its anatomy and physiology, is discussed in a thoroughly satisfactory manner. The author has followed this arrangement throughout the book, selecting an anatomical division of the body, as the chest or abdomen, and instead of describing the bones alone, muscles or any one component part, she masses the description of the part as an entity. For those only desiring the elements of anatomy, this is an excellent plan, as it enables the reader to get at a glance the entire anatomy of the part, together with the part each system plays in its formation. The book has another attraction, namely, the inclusion of the physiology of the system, under discussion in the same section as its anatomy. For nurses who have only a limited amount of time on their hands for study the author has certainly evolved a good method to acquire the most knowledge of anatomy and physiology with the least expenditure of energy. It is a very nice little book, and should prove invaluable to nurses in acquiring a sufficient insight into the subjects under discussion.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, OCTOBER, 1911

THE TRIUMPH OF AMERICAN MEDICINE.

DAILY one reads in the press about the engineering achievements and victories in the construction of the Panama Canal.

Undoubtedly the engineering problems which have arisen and have been met successfully were deserving of our unstinted praise and admiration, but one is prone to give too much credit to the engineers in the successful accomplishment of a project which seemed impossible. We physicians should feel a natural exultation in the fact that the Panama Canal would have been impossible without the aid of modern medicine. Disease, not engineering difficulties, prevented the French from uniting the Pacific with the Atlantic. Disease would have formed the same drawback to the American attempt if the American physician, with the help of modern medical methods, had not come to the aid of the engineer. Therefore, when the canal is at last completed and the world is showering praise on the engineer for his part in the consummation of a seemingly impossible task, the medical world should arise as one and proclaim the news to the skies that the completion of the canal would have been impossible without the labors of Colonel W. C. Gorgas and his medical assistants. The work of these men is a testimonial to sanitary medicine. Their efforts lay in what had up to their invasion been one of the unhealthiest spots on the universe. The region was supposed to be absolutely impossible for white men, and extremely unhealthy for man of any color. Malarial and yellow fever in their worst forms were endemic; therefore, the task of making this region habitable smacked of the impossible; yet within a comparatively short time,

through the adoption and enforcement of proper sanitary measures, not only the black man, but the white man could live and work in Panama with comparative immunity. Modern medicine is, then, the sceptre which has made the Panama Canal possible, and American doctors have demonstrated what can be done under the most adverse conditions by preventive medicine. Every American physician should be proud of the work of their confreres in Panama.

While on this subject it is well that we bring to mind the remarks made by President William H. Taft before the Medical Club of Philadelphia, May 4, 1911. No one perhaps is better prepared to speak authoritatively on this phase of American endeavor, as he was Secretary of War at the beginning of the construction of the Panama Canal. He says in part: We came to the construction of the Panama Canal in a region as pest-ridden as any on the face of the earth. It is not too much to say that yellow fever and malignant malaria, known as the Chagres fever, contributed more than any other one cause to the failure of the French to build the canal, and when we went to the zone to begin operations we found there lingering and ready to offer the same obstacles up to that time so fatal to success in this great work; but the Spanish War and the responsibilities it had thrust on us had given such light on the method of meeting and reducing these obstacles that we have finally swept them away. It took two years for us to make the necessary preparations before we could begin the work of excavation and construction. But we had selected as our medical officer a man who had acquired his knowledge in Havana, and had practised the new remedies there, and with the resources at his back, Colonel Gorgas changed a pest-ridden zone into a district as free from disease as any of the States of the South. He has made the zone a pleasant place and a healthful place to live in.

Is not such a record one on which we can dwell with the utmost national pride? Does it not speak marvels for American courage, energy and scientific thoroughness, skill, research and power of original discovery?

Medical Items.

DR. JAMES A. FECHTIG of 1305 North Charles street was operated on at St. Agnes' Hospital, August 31, for acute stomach trouble. He is reported to be much improved.

DR. ARTHUR M. SHIPLEY is a patient at the University Hospital.

DRS. EMIL NOVAK AND ANTON RYTINA have returned from a vacation spent in Europe.

THE Baltimore County Medical Association held its September meeting at the Franklin Square Hospital, September 20, 1911. Papers were presented by Drs. A. D. McConachie, Pierce Kintzing, J. H. Brauham and A. G. Chambers.

DR. DON PRESTON PETERS has resigned as superintendent of the Church Home and Infirmary to engage in the private practice of his profession in Baltimore. Dr. Peters is a graduate of the University of Virginia. He is succeeded at the Church Home by Dr. Eugene Wright.

DR. HOWARD E. LONGSDORF, formerly of the Mercy Hospital staff, and latterly assigned by the Canal Commission as physician in Panama, was one of the seven passengers on the steamer *Allianca*, which became disabled off Cape Hatteras, and was towed into Newport News for repairs.

DR. HARRY FRIEDENWALD has returned from a trip to Palestine. Reports which have been circulated to the effect that he is desirous of making his future home in Palestine have been denied by Dr. Friedenwald.

DR. G. TIMBERLAKE delivered an address before the meeting of the West Virginia State Medical Society, September 20, at White Sulphur Springs, W. Va.

DR. HOWARD A. KELLY, who was operated on at Rochester, Minn., by Dr. William Mayo, is reported as being rapidly recovering. The operation is said to be entirely successful.

DR. RALPH STEINER, who graduated from the University of Maryland in 1883, was a recent visitor in Baltimore, and gave several interest-

ing interviews to the various newspapers on crop conditions in Texas.

DR. NEWDIGATE MORELAND OWENSBY was formally installed as superintendent of the Maryland Homeopathic Hospital, September 15.

THE Washington County Medical Society held two meetings in Clearspring on September 14, one in the afternoon and one in the evening. At the evening meeting addresses were made by Drs. J. McPherson Scott of Hagerstown, W. V. Parramore of Sabillasville, and V. M. Reichard of Fairplay, Dr. J. Roger Laughlin of Hagerstown presiding. Dr. Tom A. Williams of Washington presented a paper on hysteria at the afternoon meeting.

MARRIAGES.

WALDEMAR RUSCHE, M.D., of Giessen, Germany, to Miss Louise W. Treide of Baltimore, at Baltimore, September 13, 1911.

GUSTAV H. HUTHMAN, M.D., of Portland, Oregon, to Miss Henrietta Wessel of Baltimore, at Baltimore, September 17, 1911.

ARTHUR HOWARD MANN, JR., M.D., University of Maryland, '90, of Catonsville, Md., to Miss Mary E. Elgin of Poolesville, Md., at Baltimore, August 26, 1911.

HARRY A. RUTLEDGE, M.D., University of Maryland, '07, to Miss Natalie W. Paynter, both of Baltimore, at Alexandria, Va., August 24, 1911.

SIDNEY R. MILLER, M.D., Johns Hopkins, '10, to Miss Nell Miller of Pittsburgh, Pa., at Pittsburgh, September 7, 1911. The couple will reside at Windsor Hills, Md.

DEATHS.

WILLIAM WORLINGTON HOPKINS, M.D., University of Maryland, '58, at his home at Havre de Grace, Md., August 4, 1911, of stomach trouble, aged 74 years.

MAHION KIRK, M.D., died at his home at Sandy Springs, Md., of general debility, September 11, 1911, aged 86 years.

LUTHER ZIMMERMAN, M.D., University of Maryland, '64, died at his home at Woodsboro, Md., September 13, 1911, aged 71 years.

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LUETIC MENINGITIS OF THE ANTERIOR FOSSA, WITH UNCINATE GYRUS SYN- DROME SIMULATING NEOPLASM.

By Tom A. Williams, M.B., C. M. (Edin.).

Corresponding Member Paris Neurological Society, etc., Washington, D. C.

A woman from West Virginia, aged 41, was referred by Dr. Wilmer. She had complained of pains in the eyeball and feelings of distress in the vertical and lateral muscles there, and she is annoyed at having to turn her whole head when she changes the direction of her look.

Previous History.—Although she had had no previous visual difficulties, the muscles of the eyes have always troubled her, and 10 years ago similar pains and *muscae volitantes* led her to consult Dr. Wilmer and receive relief. She had had malaria until 10 years ago, when she left Washington. Eleven months after her marriage a miscarriage occurred, and after this a severe *öophoritis*, which was cured by "electrical treatment." She had several other early miscarriages and a child, which died at once after a prolonged labor.

A uterine discharge persisted in spite of curettage and cervectomy, but she had no discomfort, weakness or pain since the operation, and otherwise felt in good health as a rule, but at times she became exhausted and nervous, sometimes to the point of tears; from this she was often relieved by a drive or a walk. These attacks might last for a week, but did not cause insomnia. For three months she had been somewhat depressed, and in the mornings felt as though a great stone lay on her chest.

Present Condition.—There is dull frontal headache and an occasional throb above the left orbit. No dizziness, nausea rarely, although regurgitation often occurred. There often occurs a sensation in the nostrils as of an odor which permeates everything she eats. It is not unpleasant, but is like that of a static electric machine or zone tube. It may last only a few minutes or some hours, and it always occurs suddenly and quite independently of her thoughts.

The Reflexes.—Patellar lively and equal. Achilles left greater than right. Triceps overactive, left greater than right. Plantar, the great toe is immobile, the movement of lesser toes is very slight, especially to left.

Abdominal is almost absent, but volitional contractions make it hard to examine. The response is at least irregular and delayed.

Sensibility was normal to wool, pin, pain, cold, heat, attitudes and vibration, except that over the dorsum of the right foot the tuning fork is felt as a burning, and she believed that it still vibrates while stationary. As this mistake was not committed upon the arms, a slight defective sensibility of the lower limbs may be inferred. There was no loss of smell or taste. There was no hemianopsia.

Motility.—No weakness, except perhaps in the facial movements, nor paralysis; no ataxia. The eye movements were complete. The diadocokinesis, however, was less quickly performed with the left arm. There was no dysnergia on mounting a chair or leaning back.

The pulse beat 120 during examination. The urine was variable in quantity, but no abnormal constituents were found. She seemed soporific, but declared herself to feel nervous and excited. Although she declared herself to be of a nervous family, no stigmata of hypersuggestibility were found, nor had she become subject to phobias, anxiety, obsessions, manies or mannerisms. The following report of the case was accordingly made:—

"I have examined your patient, Mrs. S. The only significant signs that I found were the right optic atrophy, an inequality in the Achilles reflexes, the left being more active than the right, a similar inequality in the triceps and radial, a diminution in the plantar reflexes, especially in the left, an occasional misinterpretation of sensations of deep pressure upon the lower limbs, it sometimes being called heat, a relative adiadiocokinesis in the movements of the left wrist and an apparent soporific state during examination. She declared, on the contrary, that she feels excited, and her pulse frequency of 120 per minute bears this out. There are no objective signs to enlighten me about her parosmic symptom, and it might possibly be elucidated by a rhinologist.

"The symptoms (headache, depression and regurgitation without cause) and signs present now concord with a neoplasm of very slow growth pressing upon the uncinate gyrus in the neighborhood of the optic nerve, chiasm or tract, the relative exaggeration of the reflexes of the left side being due to pressure from a distance on the motor projection fibers and the sudden olfactory paraesthesia being due to the vascular modifications which oscillate to such a degree within the cranium. I do not believe that pressure on the olfactory tract or bulb would occur without giving rise to some loss of smell, which is not present. The symptoms, however, are not enough for a positive diagnosis as yet, and I recommend that she be kept under observation and seen again at the end of six months.

"It is possible that the Wasserman reaction might throw light on the etiology, and guide us in treatment."

The result appeared to show that the last supposition was correct, as Dr. Wilmer informed me a year ago that the symptoms had cleared up after potassium iodide had been given.

SOME TENDENCIES IN MEDICAL EDUCATION IN THE UNITED STATES.

By Lewellys F. Barker, M.D.,

Professor of Medicine in Johns Hopkins University and Physician-in-Chief to Johns Hopkins Hospital.

(Continued from October.)

Still, it must frankly and anxiously be admitted that there are elements in the financial status of non-clinical professors which make us stand in pause when we think intently on the situation. No matter how keen the love of teaching, how hearty the satisfaction in solving scientific problems, a strong man can scarcely be expected to devote himself to a life of instruction and research when the remuneration is inadequate to the real needs of himself and his family during his period of activity and to provision for his old age.

It is highly desirable that the compensation of professors should be a little above, rather than below, the line of comfort for the locality in which they live. It should be large enough to furnish the necessities and conveniences of life without superfluity, and should not be so small as to prevent a man from saving each year a part of his receipts, even though a smaller fraction of them than Bacon recommends. The struggle to live, financial worries, inability to educate the children of the family, too great personal hardship and the social penalties of too small an income are sure more or less to inhibit a man in his work.

This danger of insufficient income for the non-clinical professor is no bugaboo born of my fancy; there is more than one institution in which instances may easily be made matter of perception and not of mere ideation.

The material rewards of professorships cannot, it is true, be expected to become equal to those of industrial life. It must be kept in mind, however, that the full professors in universities are the men of greatest success in their class; if the salaries of such men fall below the line of comfort, the character of the whole class is endangered, and the student body and society as a whole must ultimately suffer. Unless some method can be found for improving the financial position of the university professor, it is to be feared that many men who otherwise would shed luster on scholarship will, sadly citing the well-known phrase from Horace, *tirtus post nummos*, be driven away from scientific medicine to enter other pursuits. Society ought not financially so to penalize the professorial class that the occupancy of chairs by the stronger personalities will be limited to bachelors, to childless men, to men enriched through the accidents of inheritance or marriage or to married men who consent to doom their wives and children to the mitigated happiness which poverty affords.

Men of some sort there will naturally be who will seek salaried positions, no matter how low the salary, and, fortunately, the love

of teaching, of study and investigation will always secure a certain number of gifted men whose passion will make them work at the thing they like under any conditions. But if the fiscal arrangements of professorships were to be made in such a way that they attracted chiefly mediocre persons to whom a salaried position spells security, the higher interests of scholarship would suffer. Attention need scarcely be directed to the progressive declension of our public schools through precisely this enforced withdrawal of their abler men.

The interest in, and joy of, work, the desire of public service, the anxiety to do something well, the longing for the good opinion of one's colleagues, the obtaining of leisure to devote one's self to the finer interests of life—these must always be the great motives which lead men to become university professors. The material rewards are not, however, wholly insignificant. On psychological grounds, I have always felt that there should be some way in which all the rewards of each individual might be improved by an increase in the quality and quantity of his effort. It is by no means necessary that the increment stand in any proportional relation to the work done; men and women good enough to be professors will work honestly and loyally at the thing they want to do without any continually conscious idea of personal benefit. But there come periods in the life of each one of us when the maintenance of our higher standards is difficult, when we are tempted to be slothful or distraught; at such times, unless we are really ill and need rest or change, the more stimuli there are to exertion the better, even though some of them influence what are regarded as the less noble parts of our natures.

In salaried establishments, again, it is not always possible to avoid the defects of "institutionalism"—bureaucratic officialdom, the tyrannies of a mandarinate and oligarchic indolence; those interested in the organization of asylums for the insane have repeatedly lamented this fact.

It is easy to point out the dangers, but hard to see how to obviate them; possibly the creation of a certain number of large prizes might have the desired effect. In Germany teaching is stimulated by the system which gives every professor a small additional fee for each student whom he attracts (*Collegiengelder*), but this system has its drawbacks, and, moreover, could scarcely be applied in the United States, where as yet universities are not a chain of government institutions under federal control, and where students do not migrate. The education of public opinion to greater social recognition of the professorial class might help; it progresses rather slowly in a country in which "success" is largely as yet measured by income; those who have not learned how to get money and to keep it are too often, by the unthinking, indiscriminately classified, not quite, perhaps, as pariahs, cut off socially from hope, but still as futile persons, too innocent for "achievement" in a land of opportunities!

An especially pressing factor during recent years has been the gradual rise in the cost of living without any proportionate increase in the salaries of university professors. The average price of commodities has increased by 33 per cent. to 50 per cent., but the professor who was paid \$2000 or \$5000 before this rise took place is still compelled to live on the same amount. The trustees of universities may some time be provided with endowments which will permit them automatically to raise or lower the amounts of professors' salaries parallel with the changes taking place in the cost of living.

The system of retiring allowances for professors, instituted by the Carnegie Foundation for the Advancement of Teaching, will undoubtedly do much to improve the economic position of the university professor. Some system which will permit, also, of insurance against death or disability preceding the age of retirement ought to be devised. The extinction of superfluous colleges with corresponding reduction in the number of professorships may lead gradually to an increase in the honoraria pertaining to the chairs that remain. The whole situation should certainly be canvassed carefully and the means discovered for enhancing in various ways the social and pecuniary rewards of professors in the non-clinical branches of our medical schools.

POSITION OF AND TENDENCIES IN THE CLINICAL DEPARTMENTS.

The policies followed in the clinical departments of the better university schools are far from uniform. There is as yet no unanimity of opinion as to the best way to improve these departments. All are agreed as to certain fundamental points: the desirability (1) of more thorough practical teaching and (2) of an increase in scientific productivity. How best to move toward the practical realization of these ideals is a question.

A STATE OF FLUX.

The clinical departments of the medical schools of the United States are on the eve, it would seem, of important reforms. To bring them about, radical changes may be necessary. Faculties will doubtless be led to experiment in various ways; only after trials through a considerable period shall we be able to decide on the arrangements and organization suitable for general adoption in the better schools. A state of flux, already evident in the clinical departments, is therefore likely to continue and to become even more pronounced during the next decade.

In medicine, which is, and must always be, the department of primacy in a medical school, and also in surgery, the tendency to fill chairs by attracting able men from a distance has finally begun. It was formerly impossible on account of the absence of school-controlled hospitals. The medical faculties were compelled to accept as their clinical professors men who, developing locally, were the physicians to municipal or to privately-endowed hospitals. In no other way could "clinical material" for the instruction of stu-

dents be obtained. Now that universities are beginning to have their own hospitals, or to enter into arrangements with other hospitals through which their professors are assured directing places on the hospital staff, professors may be called from a distance, or be selected from the local profession on account of their skill in diagnosis and therapy, their ability as teachers and their power as original investigators.

THE PRINCIPAL CLINICAL CHAIRS AND THE SPECIALTIES.

The three principal clinical chairs in a medical school must always be those of medicine, surgery and obstetrics. A general training in each of these branches is absolutely essential in the education of every medical student.

In the specialties there is time, in the brief period of the clinical curriculum, to teach the student only the most salient methods of diagnosis and treatment, those suited to the needs of the general practitioner. Except for brief courses in ophthalmology, psychiatry, and possibly pediatrics, it is doubtful whether in the time at present allotted to clinical instruction it is justifiable to make obligatory any training in the clinical specialties beyond that which can be given in the departments of medicine, surgery and obstetrics. There are three reasons for the view here advanced. In the first place, medical schools are as yet, in this country, devoid of the endowments necessary for the equipping and manning of university departments in the specialties like gynecology, genito-urinary diseases, orthopedics, neurology, ear, nose and throat, dermatology, gastro-enterology, etc. In the second place, courses given to undergraduate students in such departments, could they be established, would have to be rigidly restricted to essentials if each subject were to occupy in the curriculum its true position of relative value to the student. A specialist naturally and properly impressed with the importance of his own subject tends to enlarge on it and to inflate it out of all proportion to its legitimate position in the undergraduate medical curriculum. The right place for extended courses in the specialties is in the post-graduate medical school in which men equip themselves for special practice. And, in the third place, it is important that teachers in the general departments of medicine and surgery be able to diagnose all ordinary conditions and to treat the simpler and commoner affections, no matter to what special branch they belong, just as the family practitioner has to do. What a bad impression it must make on a student in the medical wards if his professor of medicine when a patient complained of cough or of hoarseness was unable to make a laryngoscopic examination, but had to refer the patient to the specialist in the "throat and chest" clinic; or if, when the patient had indigestion, he were referred to the "stomach clinic," or, in the case of palpitation, to the "heart clinic"! And how discouraging it would be also to the student in the surgical wards if his professor of surgery felt himself incapable of examining the prostate, of recognizing a flat foot, of detecting the presence of a pus tube

or of diagnosing a simple eczema. The continual reference of such cases to other departments without at least preliminary study by the teachers of general medicine and surgery would imply such a disintegration of medical thought as to have a very bad influence on the students. The tendency would be for them to grow accustomed to the idea that it was not necessary for them to examine every patient thoroughly or to treat him. "If the professor of medicine or surgery in a great medical school is unable to differentiate the simpler and more common conditions in the special branches, how can we be expected to do so when we go out into practice for ourselves?" is a question these students would ask themselves.

The picture of medical practice as seen in the six great branches—medicine, surgery, obstetrics, ophthalmology, psychiatry and pediatrics—is already so intricate that it would be unfortunate if students in the medical schools were compelled still further to complicate it. Moreover, a medical clinic in which the larynx was not inspected, the eye-grounds not looked at, the stomach not examined, the heart not auscultated, or in which electric and various laboratory examinations were not made, would be a caricature of a medical clinic. Each assistant in our great clinics, though especially skilled in the technic of his own branch, should command all the ordinary methods of examination which the general practitioner may be expected to employ. The student should be impressed with the fact that there is no "witchcraft" about the technic of these methods; that it can be acquired by practice and routine, and that it must be so acquired. Billroth long ago called attention to these points, and urged that, if all the special methods of investigation were shoved out of the major clinics into special courses, not an integral part of them, and especially if, in such special courses, the technical side were so expanded as to become disproportionate, sight would be lost of the relative significance of each specialty in the study of the body as a whole, and the students in the medical school, through the extreme disintegration and the lack of cohesion, would become completely discouraged.

For the post-graduate work of the university medical school, the special clinics are highly desirable. In them the special subjects ought to be advanced by original investigation; there, too, physicians should be able to prepare themselves for special practice. Where the material is rich, and especially when the man directing a special clinic is intellectually able and possesses creative power, a reputation could soon be gained which would attract post-graduate students from different parts of the civilized world; such a special clinic would lend brilliancy and prestige to the university which provided for it. But, while arranging liberally for scientific and investigative work in all the general and special clinics, great care should be taken to see that this is not done at the cost of the undergraduate instruction.

THE HOSPITALS OF THE MEDICAL SCHOOLS AND THEIR
MANAGEMENT.

The most pressing need in the clinical departments of the medical schools of the United States at present is that of school-controlled hospitals in which the students may actively participate in the work of diagnosis and treatment and, under skilled direction, be held responsible therefor. In the hospitals the conditions should permit of an adequate organization for the three great functions of a university clinic—practice, teaching and research. These hospitals should be large enough to supply sufficient clinical material in internal medicine, surgery, obstetrics and in the principal specialties. The organization should ensure a large degree of departmental autonomy while providing for proper correlation of the activities of all the clinics.

It is only here and there in the United States that one finds belonging to a medical school (1) a hospital of sufficient size equipped with teaching and working quarters, with wards situated in immediate contact with commodious clinical laboratories; (2) an organization according to which the professors of the clinical departments of the medical faculty are also the principal physicians and surgeons on the hospital staff, the whole control of the individual departments being in the hands of the respective professors. Until medical faculties obtain by endowment or agreement facilities of this sort, the clinical sciences must remain backward in their development.

There is probably not a single institution in the United States which has as yet a wholly satisfactory arrangement between the medical school and the hospital in which the clinical work is done. Even in some of the institutions pointed to as paradigms of an ideal relationship, the conditions are, in reality, far from ideal. Unless the medical school and the hospital are actually integral parts of a single corporation, it is hard to devise an organization which will prevent friction, for, in the present undermanned clinics, the hospital, on the one hand, is often found maintaining that the staff is paying too much attention to instruction and to research, to students and to laboratories, and not enough to the interests of the patients themselves, while the medical school is constantly urging that the routine work of the care of patients in the hospital is not university work; that those devoting themselves to it are not worthy of university recognition, or that they are too much interested in caring for the patients and not sufficiently devoted to teaching and the solving of those problems in diagnosis and therapy which the study of the patients should suggest. Where the finances of the hospital are kept separate from the finances of the medical school, there are often disputes as to the portion of the expense in the clinic to be borne by the hospital, on the one side, and by the medical school on the other, and even when after conference a theoretically satisfactory understanding as to the division of expense has been arrived at, one finds, in actual expe-

rience, a persistence of the friction. In my opinion this vexatious state owes its origin (1) to the separate developments in this country of the hospitals and the medical schools; (2) to the imperfect fusions which have come later on, leaving authority still somewhat divided; (3) to the immense amount of work to be done and the insufficient number of people to do it, and (4) especially to a misunderstanding both by hospital officials and by university authorities of the value and dignity of the different portions of the work which must be carried on in the clinics. In reality, the interests of the hospital and of the medical school are one when the functions of the clinics are properly understood, organized and administered; there should be no more quarrel between hospital and medical school than between unselfishness and the higher selfishness. But as long as there is a division of responsibility and control, ideal conditions in the clinic will rarely, if ever, be reached.

Another serious defect in the hospitals as they are now, lies in their management as general hospitals under an executive head, rather than as separate, largely autonomous clinics, the activities of which are correlated by a committee made up of representatives of the individual clinics in association with a general executive head. Until we have, as in the German hospitals and medical schools, (1) a medical clinic, (2) a surgical clinic, (3) an obstetrical clinic or a woman's clinic, and (4) the various special clinics—each organized as a separate entity, with its own staff, preferably with its own buildings, certainly with its own budget, with control vested in the department itself—the conditions under which work is done will continue to be unsatisfactory. Unless the department of surgery, for example, can admit and discharge patients at will, can decide on the kind of work it will do, can buy instruments, books, etc., whenever needed as long as the budget of the clinic is not exceeded, surgery and surgical investigation will be hampered. When these matters for all the clinics lie within the province of an extra departmental authority, there are apt to be unnecessary delays, arbitrary decisions and other obstructive measures which are irritating and inhibiting to work.

These difficulties are pointed out without any intention of unfairly criticizing executive officers in our large general hospitals. Among hospital superintendents there are many men of unusual executive ability and of high ideals; they have often co-operated harmoniously with those who have the interests of the medical school at heart. My comments refer merely to the faults inherent in a system; the positions, as at present constituted, certainly have in them factors which do not make for the best interests either of hospital or of medical school. One of the problems to be worked out, then, in our university hospitals consists in articulating satisfactorily the general administrative work of the institution with the special administrative work of the individual clinics; in other words, we must find out how those who examine patients and treat

them, those who instruct students and those who make original investigations can be relieved of general administrative difficulties, on the one hand, and favored in their special departmental functions on the other.

Of course, it should be admitted frankly that, in the present system, general superintendents of hospitals often find departmental professors difficult. Not every professor of medicine or surgery is a good business man or has administrative skill; indeed, it is not uncommon to find men strong as investigators, teachers or practitioners, but somewhat lacking in business sagacity and executive ability; occasionally when gathered, grumbling and querulous, in a superintendent's office, they convert it into a veritable cave of Adullam! In particular instances provision might be made to free a professor as much as possible from administrative work. It could be easily carried on for him by another member of the department, or by a chief clerk who might be a non-medical man. The ultimate solution of this difficult problem may lie in the appointment of a salaried executive clerk in each of the clinical departments to look after administrative matters, the work of all such officers to be supervised and correlated by a general business superintendent who would be responsible to the medical board of the hospital.

DEPARTMENTS OF INTERNAL MEDICINE.

The functions of each of the clinical departments are manifold and complex. Let me refer to some of the activities of the branch about which I know most, namely, internal medicine. If one attempt to resolve the functional complexity of that branch into its component aspects one can distinguish at once at least four principal parts:

1. The practice of medicine in the public and private wards and in the out-patient department and the laboratories thereto pertaining, by which I mean the actual diagnosis and treatment of disease in the patients who enter the clinic.

2. The teaching in the wards, in the dispensaries and in the laboratories of (a) undergraduate medical students; (b) assistants and associates; (c) physicians taking post-graduate courses in the department.

3. The prosecution, by professors, assistants and post-graduate students, of original inquiries in internal medicine, the search for new methods of diagnosing and treating disease, the attempt to advance our knowledge of the subject beyond its present boundaries.

4. The administrative duties, including the admission, transfer and discharge of patients, interviews and correspondence with physicians who bring patients, and with the relatives and friends of the sick, the relations of the clinic to housekeeping and nursing, the maintenance of records and statistics, the arrangements for publications, the superintendence of budgets and expenditures, the making of appointments and promotions, the attendance on

departmental and inter-departmental conferences, the formulation of curricula, the organization, equipment and running of the several clinical laboratories, the library, and the museum, the integration of departmental activities, the development of an *esprit de corps*, etc.

THE PRACTICE OF MEDICINE IN THE CLINIC.

Turning now to a little closer examination of the work of the medical clinic of a modern school and hospital, it will be found that the practice of medicine in the clinic itself is, separately considered, no small task. In order that the teachers and investigators in the clinic may be sure of getting what they need, or prefer, in their work, a large number of cases from which to select must be admitted to the hospital. The larger the clinical material available, the better. The time may come when, in addition to the general reception wards of the stationary clinic, there will be special wards to which may be transferred the cases most suitable for teaching, on the one hand, and for investigation on the other. The larger reservoir for the reception of the cases previous to selection will always be necessary, for, in the first place, until a patient has been fairly well studied, one cannot be sure how valuable he may be for illustration in teaching or for the suggestion of problems for original scientific investigation; in the second place, every great hospital must, on humanitarian grounds, take in many cases which, at the time, may be of relatively little educational or scientific interest.

A large department for out-patients, a so-called "policlinic" or "ambulatorium," is also necessary for three reasons; first, on humanitarian grounds, to provide treatment for the poor who, though not well, are not so sick as to require admission to the wards of the hospital; again, as a feeder to the stationary clinic, to which can be sent the sicker patients, those exemplifying unusually well the pathological states under consideration at the time in the educational work in the wards, and those presenting obscure conditions, necessitating for diagnosis more elaborate studies than are feasible in the policlinic; and finally, for teaching purposes in the policlinic itself, for here material of a special kind becomes available for the teaching of students, including not only slightly ill patients suitable for the practical courses in physical diagnosis and other propædeutic studies, but also precisely the types of minor ailments which the young physician is most likely to meet when he starts out in practice. The ills of the ambulatory patients, though sometimes permitting continuance of occupation, require regular supervision. Chronic diseases of the heart and blood vessels, of the kidneys, of the liver and lungs, perhaps prevail. Functional nervous cases are also frequently seen. The student has the opportunity of inquiring into the personal history and social relationships of such patients, to investigate the bearing of obscure organic disease on psychoneurotic states and to see in how far they may be influenced by psychotherapeutic and other reme-

dial measures. In connection with the social service department, the personal relations and experiences of these patients can be investigated and, sometimes, disentangled. Organic nervous cases (tabes, multiple sclerosis, etc.) can also be studied here to advantage, since but few hospitals have as yet provided special neurological wards, and where they have been provided they can take care of but a fraction of the material which offers.

In addition to the public wards and the policlinic, most university hospitals have, and all should have, private rooms in which pay patients may be received. In them well-to-do people may avail themselves of the services of the men of unusual skill and reputation on the hospital staff. The occupants of such rooms can usually afford to travel long distances in the hope of superior study or treatment. Hospital workers with national or international reputation will, therefore, attract the interesting clinical puzzles from widely distant points, and thus extend the clinical material of the hospital. Among the well-to-do there are sometimes individuals of superior intelligence, types of men and women rarely to be met with in the public wards of the hospital. The stimulus to study a disease in, and to make a discovery that will restore health and activity of the body of, a person of superior intelligence (*e. g.*, an illustrious artist, a scientific discoverer, a captain of industry, a leader of labor), will be somewhat greater than the stimulus yielded by a similar malady affecting a person with mediocre, or distinctly inferior, brain in either the private or the charity ward. The direct benefit to society means more in the one case than in the other. The anticipated contributions to medical knowledge in the two instances might be of equal value as far as future use by the profession is concerned, but the finer immediate need makes a special appeal. This may account for the number of important therapeutic measures which owe their invention or discovery to problem solving suggested by private patients. Further, the endowment of medical research by private individuals is encouraged by the acquaintanceship with medical needs that the private wards foster. Finally, the private patients treated do much to support the reputation of the hospital and its staff, and thus affect favorably the standing of the medical school and its graduates.³

The responsibilities of diagnosis and treatment of this vast collection of clinical material, public and private, stationary and ambulatory, are a grave burden which the clinical staff must bear.

³Certain precautions ought always to be taken to prevent abuses; for instance, the private wards should never be so greatly developed that the public wards and the out-patient departments become a mere appanage of a large private sanitarium. Especial care should be taken that the teachers and investigators in the clinic do not become overburdened with private patients. It may be necessary to regulate the amount and distribution among members of the staff of this kind of work, and to exercise some supervision over the fees charged. The practice in such wards should exemplify the highest ethical standards of the profession. The hospital should never enter into unfair competition with physicians and surgeons outside; the admission of patients to the private wards of hospitals with payment only for room and board, and without the payment of fair fees for professional services rendered, is unjust to the practicing profession.

The mere technical procedures of the thorough examinations made and of the therapeutic measures carried out involve a large expenditure of time and energy. Students, house officers and senior assistants may well bear the brunt of this work, but, in addition, an associate professor, or, in the larger institutions, preferably a full professor, may well devote the major part of his time and energies to it, leaving most of the teaching and experimental investigation to others. The philanthropic work of the hospital, as well as the reputation of the institution among physicians and among the laity, depends on the thoroughness and courtesy with which this work is done. Moreover, the teaching and investigative functions of the clinic can be properly developed by those who are devoted especially to them only after this fundamental function of diagnosis and treatment has been fully provided for. The mere administrative side of this part of the work is complex and time-consuming. The admission and discharge of patients, the maintenance of records, the arrangements for special examinations by workers in neighboring clinics, the interviews and correspondence with the patients' friends and relatives and with their physicians—all require time, thought and a special kind of skilled executive ability. The patients are very different from the guinea-pigs and the rabbits of the laboratories, and cannot be treated, or operated on, in the same way. Nor can you dismiss a patient's relatives with that lack of ceremony which is sufficient in a guinea-pig's case; they must be talked to, and written to, occasionally. Laboratory men discussing clinical reforms sometimes seem to forget this. Even the best executive officer cannot wholly escape from the matters referred to, though as the organization becomes perfected, the chief supervisor can turn over much to junior men.

The application of the principles of "scientific management" to the details of the work in the clinic promises improvements. If every element in the work of the clinic, from out-patient department to private ward, were subjected to searching inquiry, much waste of time, waste of energy and waste of material could be eliminated. At present there is little uniformity in the technic of clinical examinations, and the personal element enters far too greatly. It is highly desirable that experts shall decide on the one best method to use in each instance, that these best methods shall be adopted as standards, the efficiency of all the workers being gradually brought up to these standards by careful instruction, and the organization made such that the plans will be self-perpetuating. This task is far easier to talk about than to accomplish, but it should be undertaken.⁴ Modern commerce is developing systems of efficiency beside which the management of clinics cuts a sorry figure. We need a "commercialization of medicine" in the good sense, and must see to it that the term "medicalization of business" is not coined as a byword of reproach!

⁴Taylor, F. W.: *Scientific Management*, N. Y., 1911. Gantt, H. L.: *System*, February, 1911. Cooke, M. L.: *Bulletin of Carnegie Foundation*, 1910.

THE TEACHING OF INTERNAL MEDICINE.

In the performance of the second great function of a medical clinic, that of teaching in the wards, in the dispensaries and in the clinical laboratories, a fairly large staff, a well-thought-out plan and the devotion of much time and energy are essential. The amount of teaching in a department of internal medicine is, and should be, greater than in any other department of a medical school. It makes up a large proportion of all the work of the third and fourth years, and from now on is likely to include also a part of that of the second year of the undergraduate course.

Since the graded medical course was inaugurated by Northwestern University many years ago, American clinicians have gradually arranged a sequence of studies in the medical clinic which permits of a methodical advance in the instruction. The student from the beginning of his clinical studies is made regularly and purposefully to climb a ladder which connects the fundamental training of the non-clinical departments with the professional occupation which he is to take up after graduation. Instead of the didactic and merely demonstrative teaching which formerly prevailed, a thorough practical training in clinical work is now required. After a general introduction to clinical methods and aims at the end of his second year, the student is, in his third year, instructed in the principles and art of physical diagnosis (inspection, palpation, percussion and auscultation), and he is taught, in the systematic practical course given in the clinical laboratory, how to make examinations of the sputum, urine, stomach contents, feces, blood and the various body fluids. In the third year, too, he learns the method of taking clinical histories and of keeping protocols, hears a certain number of general didactic lectures, attends amphitheater clinics which stimulates his interest, studies a good textbook and is tested as to his progress by carefully conducted recitations. In the latter part of the third year he may profitably engage in the actual history-taking, physical examination and therapy of ambulatory patients in the polyclinic.

Important as this propaedeutic work is, it is overshadowed in benefits conferred by the medical work of the fourth year, when the undergraduate student is required actually to do an important part of the work in the stationary clinic. Here, as a clinical clerk, he has a certain number of beds assigned to him, and is permitted to regard the patients occupying them as his patients, for whose study and care he is personally, in large degree, responsible. These clinical clerkships, the glory of the teaching of medicine in Edinburgh and London, introduced into this country by Osler, and now meeting with general adoption, offer the best opportunity conceivable for students to acquaint themselves with the technic of the art of internal medicine. The task of giving much responsibility to students while keeping strict control and exercising the sharpest and most thorough supervision over them is not an easy one, but it is being satisfactorily worked out in our better clinics.

Nothing could be more disastrous to patients or students than to give responsibility without control and supervision; granted these, patients, students and hospital staff alike profit. Since on entering the stationary clinic the students are prepared to make more or less accurate laboratory and physical examinations, a higher order of routine can be maintained in the medical wards with their help than would be possible with the staff alone. An auxiliary body of workers, to which the simpler tasks can be deputed, leaves the staff at greater liberty to devote itself to the more difficult technical procedures and to advanced studies which otherwise could have only a limited application or would have to be entirely dispensed with.

Students and staff thus work together in the medical clinic as a harmonious group. The cases under examination are compared with similar cases in the literature. The spirit of thorough investigation is cultivated; each worker is encouraged to ask himself how the particular cases immediately in his care can be more completely analyzed and what problems they present suggestive of experimental or statistical inquiry. The treatment instituted can be carefully observed, for the work is concentrated, the students practically living in the medical wards for several months at a time; any results attributable to therapy can be observed and recorded. If a patient gets well, the students are urged to follow up his subsequent history; if he dies, they attend the autopsy in the pathologic laboratory and compare the anatomic findings with the clinical inferences which have been drawn during life.

In all this medical work, both in the third and fourth years, it is essential that the students be divided into small groups, and that each group be directly supervised by some member of the clinical staff. The immediate hourly supervision will, of necessity, devolve on the younger men on the staff, but a heavy burden also falls on the senior members of the department, who must themselves keep in intimate touch with the students and junior staff—controlling, criticizing, reviewing, suggesting, encouraging. At least one full professor and two associate professors, whose function shall be predominantly teaching, are needed to plan and to conduct this work; in larger clinics it would be of advantage to have two full professors assigned to this function. In some of the schools, the teaching professors will also be the authors and revisors of textbooks of medical practice.

One rewarding part of the work of a teaching professor in such a department is the instruction given to the junior men on the staff—the assistants, instructors and associates; not only can a professor through them extend his influence over the students, but he will be able to discover in his staff those whose native ability and inclinations give promise of teaching power, and by developing them provide a stock whence the successors to those now teaching may later be drawn.

The clinic should also receive, as far as its facilities will permit,

physicians who desire to take post-graduate courses in internal medicine. These physicians fall, roughly, into two groups: first, graduates of several years' standing (or recent graduates of inferior colleges), who, like undergraduate students, need a thorough training in the fundamental methods and principles of the clinic, and, second, advanced men, who, well trained in the fundamentals, are ready to take up higher work in internal medicine and to specialize in it, some of them along the lines of practice, others along the lines of teaching, and still others along the lines of original inquiry. In a good organization these advanced men would, according to their special needs, be distributed among the workers in the department, some being sent to the men chiefly engaged in the care of the patients, others to the men especially occupied in teaching, and a select few to the men wholly absorbed in experimental research.

(To be continued.)

Correspondence.

Hagerstown, Md., October 20, 1911.

Editor Maryland Medical Journal,
Professional Building, Baltimore.

Dear Sir—Please note that in the recent publication of the summary of results of the June (1911) examination by the Board of Medical Examiners of Maryland Nos. 98 and 150 should have been credited to the University of Maryland instead of the Jefferson Medical College.

Very truly yours,
J. MCP. SCOTT,
Secretary Board of Medical Examiners of Maryland.

A REFERENCE BOOK OF OBSTETRIC NURSING. By W. Reynolds Wilson, M.D., Visiting Physician to the Philadelphia Lying-In Charity; Member of the Pediatric Society, etc. Illustrated. Second edition, thoroughly revised. 32mo of 256 pages. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Flexible leather, \$1.25 net. 1911.

This book deals with the practical aspects of midwifery. It is concise and full of information, which should be indelibly impressed on the nurse's mind, especially if she desires to be more than the ordinary granny. The management of pregnancy, labor and the puerperium are minutely described. Many useful and practical hints are dispersed here and there throughout the book. The subject-matter is modern and thoroughly reliable, the illustrations well executed and sufficient for the purpose, the type clear, the text sufficiently full. We take great pleasure in recommending the book to the nursing profession.

RUPTURED QUADRICEPS EXTENSOR TENDON, WITH REPORT OF CASE.

By Nathan Winslow, M.D.,
Baltimore, Md.

RUPTURE of the quadriceps extensor tendon is of sufficient rarity to warrant reporting. With an injury of this character the following symptoms occur: A depression above the patella into which the finger can be inserted and the lower end of the femur palpated; loss of power of extension of the leg on the involved side; a patella freely movable from side to side; ecchymosis; swelling, and the history of an individual having fallen backwards. In my case a Mr. W., aged 76 years, a resident of Baltimore, while out walking trod on a piece of ice, slipped and fell backwards with a sudden jerk. He was unable to rise, but, being near his home, was carried there by his son. I was called by Dr. C. W. McElfresh in consultation, and from the symptoms—a freely movable patella from side to side; severe pain on movement or manipulation of leg, which was semiflexed and could not be voluntarily extended; inability to stand on limb without falling; depression over patella, through which an inserted finger could palpate the femur; loss of tenseness of the quadriceps extensor tendon, and ecchymosis—made the diagnosis of ruptured tendon, and ordered the patient to the University Hospital, where I operated the next day, January 28, 1911. The patient was etherized and a semicircular incision made over the site of injury. The lower end of the tendon was found curled on itself and the upper retracted. The ends of the tendon were found to be stretched and torn irregularly. These were overlapped and sutured in two rows, the wound closed without drainage and the leg put in a cast in extension. In 10 days the cast was removed and the skin sutures taken out. The wound was found firmly united, and the cast was reapplied, with the leg as originally in extension, the cast extending from the base of the toes to the groin. After two weeks the patient was allowed to get out of bed and sit in a chair. Eight weeks after the operation the second cast was removed and the tendon found to be firmly united. Crutches were ordered and the patient allowed to get about. Ten weeks after the operation he was walking about without any artificial aid, and today, about seven months after the injury, walks as well as he ever did. The result is particularly gratifying when the age of the patient is taken into consideration, namely, 76 years.

Book Reviews.

THE PARASITIC AMOEBA OF MAN. By Charles F. Craig, Captain, Medical Corps, United States Army. From the Bacteriological Laboratory of the Army Medical School, Washington, D. C., and the Rockefeller Institute for Medical Research, New York City. Published by the authority of the Surgeon-General of the United States Army. Philadelphia and London: J. B. Lippincott Company. Cloth, \$2.50 net. 1911.

Although here in Baltimore and Maryland amebic infection is rare, still it occurs sufficiently frequent to make a book of the character of more than cursory interest. Moreover, our close relationship with our sister States of the South and the frequent comings of vessels from the tropical countries render its introduction of greater and greater frequency. Therefore, a monograph giving in detail the life history of this organism should prove of value to the medical profession of the United States, and Captain Craig's long experience with the amebic infections of man render him particularly well fitted for this task. From this book can be gotten a detailed description of the various species of ameba parasitic to man, including their morphology, life cycle, methods of differentiation and other details of interest. Amebic dysentery and tropical abscess of the liver are met with sufficiently often in Baltimore to make us welcome a contribution of the scientific character of the above and to place us in a position of unrequitable debt to the author.

INTERNATIONAL CLINICS. A Quarterly of Illustrated Clinical Lectures and Especially-Prepared Original Articles on Treatment, Medicine, Surgery, Neurology, Pediatrics, Obstetrics, Gynecology, Orthopedics, Pathology, Dermatology, Ophthalmology, Otology, Rhinology, Hygiene and Other Topics of Interest to Students and Practitioners. By leading members of the medical profession throughout the world. Edited by Henry W. Cattell, A.M., M.D., Philadelphia, with the collaboration of William Osler, John H. Musser, A. McPhedran, Frank Billings, Charles H. Mayo, Thomas H. Rotch, etc. With regular correspondents in Montreal, London, Paris, Berlin, Vienna, Leipsic, Brussels and Carlsbad. Volume CXI, twenty-first series. Philadelphia and London: J. B. Lippincott Company. Cloth, \$2 net. 1911.

Volume CXI, twenty-first series, of International Clinics contains many articles of value to the general physician. As heretofore, the latest thought in medicine, surgery and the specialties has been collected and bound in book form. Bradford's article on "The Surgical Treatment of Disabilities Following Anterior Poliomyelitis" should attract more than passing notice. It clearly illustrates what can be expected from surgery in correcting and improving deformities incident to this malady. The article entitled

"The Modern Treatment of Arteriosclerosis," by Harlow Brooks, should appeal to the internist. The many other articles on varied subjects are all above the average, and contain much useful and practical advice.

REFRACTION AND VISUAL ACUITY. By Kenneth Scott, M.D., C.M., F.R.C.S. (Edin.); Consulting Ophthalmic Surgeon to St. Mary's Hospital for Women and Children, London, E.; Late Lecturer on Ophthalmology, West London Post-Graduate College; Professor of Ophthalmology, Egyptian Government Medical School, and Ophthalmic Surgeon, Kasr-El-Aini Hospital, Cairo, Egypt. With 16 illustrations and a colored plate. New York: Rebman Company. Cloth, \$1.75. 1911.

The general practitioner who has been unable or unwilling to acquire a reasonable acquaintance with the art of refraction will find in Scott's book many suggestions which can be applied by him most satisfactorily. The entire book can be read with profit, as the text is not burdened with scientific terms and those which the writer has been compelled to use thoroughly defined. Such subjects as emmetropia, hypermetropia, myopia, lenses, form for prescribing spectacles, model eyes for practicing retinoscopy, etc., upon which the art of refraction is built and which must be thoroughly understood before the physician can intelligently comprehend refraction, compose the text. There is much in the book to commend it a favorable reception by the general physician.

PATHOLOGICAL TECHNIQUE. A Practical Manual for Workers in Pathological Histology and Bacteriology, Including Directions for the Performance of Autopsies and for Clinical Diagnosis by Laboratory Methods. By Frank Burr Mallory, A.M., M.D., Associate Professor of Pathology, Harvard University Medical School; Pathologist to the Boston City Hospital, and James Homer Wright, A.M., M.D., S.D., Director of the Pathological Laboratory of the Massachusetts General Hospital; Assistant Professor of Pathology, Harvard University Medical School. Fifth edition, revised and enlarged. With 162 illustrations. Octavo of 507 pages. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$3. 1911.

Seldom does one get more than his money's worth when purchasing a book, but such is the case here. The present edition maintains the same high standard of usefulness of its predecessors, and will, we feel, be found even more popular than ever. The post-mortem, bacteriological and histological methods which have been found most practical and efficient in the hands of the writers have been thoroughly explained and described. During the interval since the last edition and the present many problems have been solved in the bacteriologic and pathologic fields, and

the authors have included in the text those which seem to have established their worth, namely, Wright's method for staining the myelin sheaths of nerves in frozen sections; Ghoreyeb's method of staining the spirochetes; Giemsa's new method for staining protozoa and bacteria in sections; the bacteriological diagnosis of Asiatic cholera, following the directions given by A. J. McLaughlin; a greatly improved method for the staining of the blood platelets and giant cells of the bone marrow; directions for performing the Wasserman and Noguchi serum tests for syphilis.

These additions bring the book absolutely up to date and render it the same reliable authority on the subjects under discussion as heretofore. We take great pleasure in recommending its many claims to the medical profession.

THE MECHANISM OF LIFE. By Dr. Stéphane Leduc, Professor à l'École de Médecine de Nantes. Translated by W. Deane Butcher, formerly President of the Roentgen Society and of the Electro-Therapeutical Section of the Royal Society of Medicine. New York: Rebman Company. Cloth, \$2 net. 1911.

"Primitive man distinguished but two kinds of bodies in nature—those which were motionless and those which were animated. Movement was for him the expression of life. The stream, the wind, the waves, all were alive and each was endowed with all the attributes of life—will, sentiment and passion. Ancient Greek mythology is but the poetic expression of this primitive conception.

"In the evolution of the intelligence, as in that of the body, the development of the individual is but a repetition of the development of the race. Even now children attribute life to everything that moves. For them a little bird still lives in the inside of a watch and produces the tick-tick of the wheels. In modern times, however, we have learnt that everything in nature moves so that motion of itself cannot be considered as characteristic of life."

No one today, we are sure, is prepared to deny the above quotations which constitute the two opening paragraphs of the book. The author next quotes a number of definitions concerning what characteristics are peculiar to life. All of which he immediately proves are incomplete, and he is therefore forced to the conclusion that all definitions so far propounded concerning life are faulty. Undoubtedly heretofore we have been willing to accept incomplete definitions concerning what is a living being and what are inanimate objects. This arises from the fact that everyone of us has some idea concerning what is and what is not life, and is not entirely ignorance. Physiologists have now long since recognized the difficulty of drawing an arbitrary line between live and dead objects, for many apparently inanimate bodies exhibit some of the phenomena of life, which resemblances are admirably brought out by the writer. He then gives us an enumeration of the qualities of

living matter, but leaves us as much in the dark as ever as to what is and what is not a living object. Withal the reasoning is philosophic, sound and instructive. He is of the opinion that the physics of vital action are the physics of the phenomena which occur in liquids, and the study of the physics of a liquid must be the preface and basis of all inquiry into the nature and origin of life.

The views of Dr. Leduc are certainly revolutionary in character and warrant the closest consideration, although bordering closely on the question of spontaneous generation. Heretofore it has been customary to accept without question the statement that life can only originate from a living cell, but a careful consideration of the matter adduced by the author makes it seem within the realms of probability of spontaneous generation. At any rate, the evidence produced is extremely uncanny. One cannot read his experiments on osmotic growths without realizing that Nature constructs out of inorganic material something certainly closely related to living matter.

Though we may not agree with the hypothesis set forth, we must admit, unless the experiments are faulty and overdrawn, that spontaneous generation does not seem without the pale of actuality. The volume merits the closest attention, and the views adduced should be thoroughly tested before condemnation.

VETERINARY BACTERIOLOGY. By Robert E. Buchanan, Ph.D., Professor of Bacteriology in the Iowa State College of Agriculture and Mechanic Arts, Division of Veterinary Medicine. Octavo of 516 pages, with 214 illustrations. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$3 net. 1911.

Veterinarians will find in this book a complete treatise on the bacteria, yeasts, molds and protozoa pathogenic to domestic animals. In the introduction one finds a complete description of the microscope and its uses in the veterinarian field. The physiology, morphology, classification and changes of economic conditions brought about by non-pathogenic organism make up the remainder of the text of Section 1. Section 2 deals with laboratory methods and technique. Sterilization, culture media and their preparation, biochemical tests, microscopical examination and staining methods, methods of obtaining pure cultures of bacteria, and study of bacterial cultures are the subdivisions of this section. Section 3 is devoted to bacteria and the resistance of the animal body to disease. Section 4 describes the pathogenic bacteria, exclusive of the protozoa, to the latter of which it is dedicated. In Section 6 the writer groups the infectious diseases in which the specific cause is not known.

Every phase of bacteriology as it concerns the production of disease in animals is thoroughly discussed by the author. Such important questions as the nature, growth and classification of bacteria, laboratory methods, etc., are comprehensively treated.

Immunity and the various agents entering into its production are clearly and intelligently expounded. The book is destined to exert a powerful influence in veterinary surgery.

OBSERVATIONS UPON THE NATURAL HISTORY OF EPIDEMIC DIARRHEA. By O. H. Peters, M.D., D.P.H. New York: G. P. Putnam's Sons. Cloth, \$2.25 net. 1911.

This treatise represents both the practical observations made at Mansfield and also the results of previous theoretical inquiry into the causation of epidemic diarrhea. The data collected by the author and the conclusions drawn therefrom will no doubt prove invaluable aids to health officials in controlling similar outbreaks. There is no doubt that filth and dirt are at the bottom of many contagions, and the writer has here proven conclusively that insanitary conditions prevailing in the household fosters and begets epidemic diarrhea. He noted that those houses which had water-closets were less prone to become infected with the causative agent of epidemic diarrhea than those provided with pits. While flies, acting as carriers, and temperature played a distinct rôle in the prevalence of the disease, nevertheless the author was able to determine that the chief factor in its propagation was direct contact of a healthy individual with a victim of the malady. Although Dr. Peters was not able to absolutely determine from the evidence gathered that the malady is infectious, still he is of that opinion, and recommends, therefore, its treatment by preventive rather than by medicinal measures.

A TEXTBOOK OF THE PRACTICE OF MEDICINE. By James M. Anders, M.D., Ph.D., LL.D., Professor of Medicine and Clinical Medicine at the Medico-Chirurgical College; Physician to the Medico-Chirurgical Hospital; Consulting Physician to the Jewish Hospital and to the Widener Home for Crippled Children; former Physician to the Philadelphia and to the Protestant Episcopal Hospitals, Philadelphia; Officier de l'Instruction Publique. Illustrated. Tenth edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$5.50 net; half morocco, \$7 net. 1911.

The merits of Anders' "Textbook of Practice of Medicine" are too well known and recognized already to need any further laudation. The present volume will be found by those interested to be constructed along the same lines as its predecessors, but times will change, so will medicine, and it is here that this volume most differs from its forebears. Amongst the additions may be mentioned Coleman on milk sugar in typhoid fever, tonsillectomy in acute articular rheumatism, Chantemesse's serum in typhoid fever, Brudzinski's sign in cerebrospinal meningitis, Ehrlich's remedy in sleeping sickness, salvarsan in syphilis and malaria, Wasserman reaction in syphilis, Broadbent's sign in aortic regurgitation, Oertel

cure in chronic myocarditis, Gordon's method of determining myocardia, salt-free diet in arteriosclerosis, colon bacillus producing ulcer of the stomach and duodenum, glycylyptophan test in cancer of stomach, Boas' method of diagnosis in intestinal catarrh, hemohepatogenous jaundice, chronic family jaundice, Breur and Freund's theories of hysteria, and analytical or cathartic method of treating hysteria.

As already said, the popularity of Anders' "Practice of Medicine" is too well known to need further encomiums from the reviewer. The present volume has, if anything, greater claims to favor than any of the previous. It is more complete in every detail, and the author has succeeded in making the present edition the best of them all. As heretofore, there is plenty of material on treatment of the various diseases, and it is this that the reader desires. It is very well and nice to have emphasis placed on diagnosis, etiology and complications, etc., yet we say again that in a textbook on practice of medicine the average doctor desires to find out how to treat his patients. It is in this particular department that Anders' is strong and helpful. Do not for one moment get the impression that diagnosis, etc., are slighted, for such is not the case. We predict for the last edition the same cordial reception as the former have received.

DORLAND'S AMERICAN POCKET MEDICAL DICTIONARY. Edited by W. A. Newman Dorland, M.D., editor of "Dorland's American Illustrated Medical Dictionary." Seventh edition. 32mo of 610 pages. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Flexible leather, gold edges, \$1 net; thumb indexed, \$1.25 net.

That there is a demand for this character of book is attested by the number of editions through which it has run. What, then, are its advantages? It will be found extremely useful as a desk book, where an obscure term can be quickly and handily found, and it will be found very serviceable to nurses and students who always need a dictionary of this character at hand, for they are always running across phrases with which they are unfamiliar. "Dorland's Pocket Dictionary," owing to its thoroughness and reliability, fulfils this office admirably. It is neither too large for comfortable carrying in the pocket or too contracted in its definitions to be useless. In fact, the editor has excellently adapted the contents to practical needs, the rare and seldom-used terms being eliminated or receiving slight notice, whilst those in every-day use are sufficiently full for the purpose of the book.

It will be found thoroughly reliable as a guide to the pronunciation and definition of every word commonly employed in medicine, and has been brought strictly up to date. Anyone desiring a moderate-price small dictionary will find in this one complete satisfaction.

MARYLAND MEDICAL JOURNAL

NATHAN WINSLOW, M.D., *Editor.*

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BALTIMORE, NOVEMBER, 1911

LIBERAL DIET IN TYPHOID.

EVERY one of us is familiar with the emaciated appearance of a convalescent typhoid patient. In fact, during the early convalescent period it is difficult to recognize an intimate friend. This loss of weight was heretofore considered to follow as a necessary penalty to the disease. Like many other notions which are inherited from bygone days, it was accepted without question by the profession. Recently, however, it has been found that the great loss of weight incident to typhoid fever is unnecessary, and that the starvation diet to which our patients have been forced to submit is unscientific and harsh. Little by little a better understanding of this difficult question has been acquired, and today, with a more liberal diet, the characteristic starved appearance of the convalescent typhoid victim is happily becoming a relic of the past. Miller, in the *Illinois Medical Journal* of September traces very interestingly this evolution from starvation to the liberal diet of today. He notes that progressively typhoid patients have received an ever-increasing diet, until today, by scientific feeding, when the patient gets out of bed his loss in weight is hardly appreciable. Miller states that a man of 150 pounds with typhoid fever requires 5000 calories daily to maintain his weight, or double the amount necessary to maintain a healthy person of the same weight. When a patient received this amount of food there was found to be very little loss in weight, if any. Sometimes during the height of the attack there would be a slight decrease, but with defervescence this was soon made up. From the opportunities afforded him in

the Cook County Hospital he was able to determine that the fats and carbohydrates were the best protectors of the body proteids, and that at least two-thirds of the diet should be carbohydrates and not more than one-third fats. The milk and eggs contain sufficient proteids for the needs of the patient. Miller, however, does not generally aim at the entire eradication of loss of weight. In fact, he does not think this desirable. He merely endeavors to prevent an undue loss of weight, which he finds he is able to accomplish, as a rule, by the giving of 3000 calories daily. This amount of nourishment he obtains from food of high nutritional value, such as milk, cream, eggs and sugar. The milk he gives in the form of cream soup with oatmeal, rice, cornflakes, etc., or the milk may be heated and arrowroot or cornstarch added. According to the author, it is essential to administer at least a quart of milk and a pint of cream daily. This he accomplishes by using as above outlined, or in coffee, chocolate or cocoa as a vehicle. This is supplemented by the addition of four or five eggs daily, which may be taken raw or in the form of eggnogs, soft boiled, poached, or as custard or ice cream. As the carbohydrates offer the best protection from the loss of body weight, it is wise to get daily eight ounces of sugar into the patient. If the patient has an aversion to sweets, the writer orders cereals, bread, baked potatoes or any root vegetable in finely-divided form to make up for the decreased amount of sugar. The above diet will give about 3000 calories, milk and cream 1600, eggs 350, sugar 1000. Dr. Miller also allows the addition of one and one-half ounces of fat, crisp, bacon daily. This has a high food value, 250 calories to the ounce, and is relished by the patient. If all the lean is removed and the fat properly masticated, he finds it does no harm.

The above outlined plan of feeding typhoid patients has been tested by others than Dr. Miller, and has been found entirely safe and reliable. The patient has been found to make a better convalescence and to regain his strength more rapidly. As in the case of the author, the other advocates of this method of liberal feeding have noted that it is sugar which exerts the beneficent influence in maintaining the body weight. To get a sufficiency of this substance into the patient often requires ingenuity, but with perseverance and a varied change of vehicle it can be accomplished.

Medical Items.

DR. ROBERT HOFFMAN has returned from a trip to Berlin.

DR. CHARLES M. REMSEN, for several years resident surgeon at the Johns Hopkins Hospital, has resigned and will practice surgery in Atlanta, Ga. Dr. George J. Heuer, assistant resident surgeon, will succeed Dr. Remsen at the Hopkins.

DR. THOMAS McCRAE has returned from a six-weeks' trip to England.

DR. ERNEST KEYS CULLEN has resigned his position at the Johns Hopkins Hospital and will take up private practice in Detroit, Mich.

DR. HOWARD A. KELLY has returned to Baltimore, and is completely recovered from the operation performed upon him at St. Mary's Hospital, Rochester, Minn., a month ago.

DR. HENRY T. RENNOlds, 2004 St. Paul street, suffered slight injuries to the head and body when thrown from his carriage a few days ago, but is now completely recovered.

DRS. MARY SHERWOOD AND LILLIAN WELSH have returned from Berlin, where they represented Baltimore at the International Congress for the Study and Prevention of Infant Mortality.

DR. NATHANIEL G. KEIRLE, director of the Pasteur Institute of the Mercy Hospital, celebrated his eightieth birthday during October. He put in the day hard at work in his laboratory, and in the afternoon conducted a post-mortem examination at the Morgue.

THE Clinical Congress of Surgeons of North America will hold their second annual session in Philadelphia November 7 to 16, headquarters at the Bellevue-Stratford. All physicians and surgeons are invited to attend, and a most excellent program has been issued. Clinics will be held in all of the principal Philadelphia hospitals from 8 A. M. to 5 P. M., and seven literary evenings, when eminent surgeons will present papers, will be held.

MARRIAGES.

FREDERICK HENRY HERRMAN, M.D., University of Maryland, '07, to Miss Minnie Heed, both of Baltimore, at Alexandria, Va., October 3, 1911.

BENJAMIN ROBERT BENSON, M.D., University of Maryland, '07, to Miss Elsie Bartleson, both of Cockeysville, at Cockeysville, October 10, 1911.

GEORGE BARR SCHOLL, M.D., Johns Hopkins University, Medical Department, '02, of Balti-

more, to Miss Ethel Waterbury Jones, at Drexel Hill, Philadelphia, September 20, 1911.

W. L. DELEVAN, M.D., to Miss Alfretta Bingley, both of Hagerstown, at Martinsburg, W. Va., October 3, 1911.

FREDERICK GARRISON, M.D., of Baltimore, to Miss Catherine Soper of Elkridge, Md., at Elkridge, October 4, 1911.

ROSCOE CONKLING METZEL, M.D., University of Maryland, '05, of Baltimore, to Miss Daisy L. Hines of Belair, Md., at Baltimore, October 19, 1911.

THOMAS J. TALBOTT, M.D., University of Maryland, '05, to Mrs. Mary J. Carland, both of Baltimore, at Baltimore, October 9, 1911.

DEATHS.

JOHN REESE UHLER, M.D., University of Maryland, '61, died at his home, 1531 McCulloch street, Baltimore, October 9, 1911, of Bright's disease, aged 72 years.

JOHN J. CANNAN, M.D., College of Physicians and Surgeons, '92, died at his home in Bradford, Pa., September 23, 1911, of pneumonia, aged 43 years.

JEFFERSON DUDLEY POINDEXTER, M.D., College of Physicians and Surgeons, '86, died at his home in Danville, Va., September 10, 1911, aged 45 years.

CLARENCE N. MITCHELL, M.D., Baltimore Medical College, '02, of Lawrence, Mass., died at the General Hospital in Lawrence August 26, 1911, aged 31 years.

JOEL W. NIXON, M.D., University of Maryland, '78, died at his home in St. Louis, Mo., August 25, 1911, of heart disease, aged 67 years.

ROBERT CHAMBERS MOOREHEAD, M.D., Baltimore Medical College, '86, died at his home in Piteairn, Pa., September 7, 1911, of heart disease, aged 57 years.

WILLIAM A. BONAWITZ, M.D., College of Physicians and Surgeons, '89, of Millerstown, Pa., died at the Johns Hopkins Hospital in Baltimore October 2, 1911, following an operation for the removal of gallstones, aged 45 years.

JOSEPH PENN CHANEY, M.D., University of Maryland, '52, at his home in Breathedsville, Md., October 3, 1911, of general debility, aged 81 years.

WARD H. LONG, M.D., Baltimore Medical College, '09, of Springfield, Mass., died in Baltimore October 22, 1911, of cerebral hemorrhage, aged 26 years.

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BREAST AFFECTIONS—A SERIES OF 100 CASES.

By *Randolph Winslow, M.D., LL.D.*,
Professor of Surgery in the University of Maryland,
and

Nathan Winslow, A.B., M.D.,
Associate Professor of Surgery in the University of Maryland.

FROM a series of 100 cases of affections of the breast occurring in the University Hospital during the past few years, we have been able to elicit the following facts: Sixty-two were carcinomas, 3 sarcomas, 20 fibro-adenomas, 3 adeno-cystomas, 1 adeno-fibro-cystoma, 1 cystic fibroma, 2 galactoceles, 3 tubercular mastitis, 1 pericanilicular fibro-myxoma, abscess 4.

All but one were women, or 99 per cent.; the male had a fibro-adenoma. 69 of the patients were married, 27 single; the social status of 4 was not recorded. 88 were of the white race, 12 of the colored. 76 did housework, the occupation of 10 was not stated; one was a farmer, 2 saleswomen, 1 a stenographer, 1 a cook, 1 a factory hand, 3 laundresses, 1 a dressmaker, 2 were teachers, 1 a clerk, 1 a music teacher.

The right breast was affected in 40 instances, the left in 58; in the remaining instances the affected organ was not mentioned. 94 of the individuals were subjected to operation, with 92 operative recoveries and 2 deaths.* Two refused operation, and in 4 the involvement was too extensive for an operation.

The tumor came under the observation of the surgeon within the first week of its discovery by the patient in five instances; within one month in 5; within two months in 6; within three months in 9; four months 3; five months 1; six months 7; nine months 4; one year 6; two years 16; three years 5; four years 2; five years 1; six years 2; seven years 2; fourteen years 1; eighteen years 1; twenty-eight years 1; not stated 13.

Taking the series as a whole, the largest number of cases came under the observation of the surgeon during the third decade of life, there having been 25 between 30 and 40 years of age, while

*Deaths. One followed a palliative operation and occurred quite suddenly; cause unknown. The other probably resulted from pneumonia.

the fourth decade presented a nearly equal proportion, with 23 cases; 48 per cent. of all the cases came to the hospital for treatment during the period between 30 and 50 years of age.

Carcinoma: The cases of carcinoma were 63 in number. The period of greatest frequency was in the fourth decade, when 19 cases occurred, which corresponds with previous statistics. Of this series only 3 occurred before the thirty-fifth year, 50 at a later period, 3 not being recorded; 10 occurred before the fortieth year, 49 afterwards. The youngest age recorded was 17 years. In this case a supposedly fibro-adenoma was removed, but a microscopical examination, made by Prof. Hirsh, showed the tumor to be undergoing beginning adeno-carcinomatous changes. The next youngest in our series was 26 years of age. Fifty-seven of the 59 cases with age recorded occurred after the thirtieth year of age. The oldest patient was 82 years old; she was operated on and made a good operative recovery. Of the 12 colored patients in the general list, 7 were affected with carcinoma, or 58.3 per cent. The youngest of these was 37 years of age. These figures seem to indicate that in the colored race cancer is not only relatively less frequent, but is also actually less prevalent than in the white, for of the 88 white patients, 55 were the subjects of carcinoma, 62.5 per cent., as compared with 58.3 per cent. for negroes. A family history of cancer was obtained in 16 instances, and of trauma in 14. The growth had ulcerated in 10, and was attached to the skin or muscles in 26. The axillary glands were palpable in 32. The growth was located in the upper and outer quadrant in 15, lower and outer in 6, upper and inner in 9, lower and inner in 1. The size varied from that of a marble to a clenched fist, and even larger in several instances. The growths were removed by Halsted's radical method in 37 instances, and by Meyer's method once; the breast and axillary glands without removal of the pectoral muscles in 19. In 3 the involvement was too extensive for successful removal, and 2 refused operation.

The importance of subjecting every growth to a thorough microscopical examination was demonstrated by the following case: The operator, thinking he was dealing with a fibro-adenoma, enucleated the growth, but subsequently he was informed the growth was carcinomatous, and the patient returned for a breast amputation. In another instance, after having removed a doubtful growth, the operator was advised that a frozen section indicated carcinoma. He therefore immediately performed a radical operation, and later was informed that the growth, on further microscopical examination, was innocent. Thus even frozen sections are not invariably reliable, but under such circumstances as mentioned above it is the best policy to remove the breast at the time of the original operation and not delay, even though, as in this case, the operative procedures were more mutilating than was necessary.

The diagnosis appended to the charts in the cancer series was simple carcinoma, 37; scirrhus carcinoma, 20; medullary carci-

noma, 1; adeno-carcinoma, 5. In eight instances there was a history of post-operative recurrence, but as no post-operative history was obtained of most of the cases, a definite statement cannot be made as regards the actual number of recurrences.

A history of more or less pain was obtained from 42 of these patients.

In the cancer series a growth was known to have been in existence for the following periods: One week, in 9 cases; two weeks, in 1; three weeks, 1; two months, 2; three months, 8; four months, 4; six months, 5; nine months, 3; one year, 10; two years, 10; three years, 4; four years, 1; five years, 1; seven years, 2; fourteen years, 1; twenty-eight years, 1.

Glancing at the length of existence of the tumor in the cancer series, forcibly reminds us that as soon as a lump is discovered in the breast it should be removed. In one case the growth was in existence for 5 years, two for 7 years, one for 14 years, one for 28 years, and quite a number from one to two years. Surely, if all of these had been extirpated in their incipiency, at least some of the cancer victims would have escaped.

Sarcoma: There were three cases of sarcoma. The time of life at which they occurred was as follows: 34 years, 51 years and 52 years. Although this series is very small, the ages are rather remarkable. Sarcoma, as a rule, occurs before the fortieth year. Here we have two after the fiftieth. One of these cases was a myxo-sarcoma. There was pain in two.

Adeno-Fibroma: There were 20 cases of adeno-fibroma, distributed as follows: The oldest patient with adeno-fibroma was 45. The greatest number of cases occurred between the ages of 30 and 40, during which decade nine cases came under observation. To our mind, there is no doubt that some of these tumors would have eventually undergone malignant degeneration if they had not been extirpated. There was pain in six of these cases.

Fibro-Myxoma: There was one case of fibro-myxoma, occurring in a colored girl aged 17 years.

Cystic-Fibroma: One case of cystic-fibroma was observed, occurring in a white woman 27 years of age. There was pain in this case.

Tubercular Mastitis: There were three cases of tuberculosis of the breast, occurring at the following ages: 40, 44 and 60. Of these three cases two were mistaken for malignant disease and one was correctly diagnosed clinically. The diagnosis in the other cases was made by means of microscopical examination. There was some pain in all these cases. The last case two years subsequently returned to hospital complaining of severe pains in right breast. On examination no lump was palpable; the breast soft and apparently not affected; it was, however, amputated, with no relief of pain.

Galactocele: Two cases of galactocele were observed, occurring at the following ages: one at 25 years and one at 35 years. There was pain in one of these cases.

Adeno-cystoma: There were three cases of adeno-cystoma, aged, respectively, 16, 21 and 47 years. There was pain complained of in two of these cases.

Adeno-fibro-cystoma: One case of adeno-fibro-cystoma was observed, aged 51 years. Ether was used as an anesthetic in practically all cases, but in one serious case the induction of insensibility to pain by the use of HMC tablets was thoroughly tested. At 9 A. M. hyoscine gr. 1/200, cactine gr. 1/134, morphine gr. 1/8 was administered hypodermically, and the same dose was repeated at 10.30 A. M. When brought to the operating table at 10.45 A. M. the patient was asleep, but could be awakened sufficiently to understand what was said to her, and would protrude her tongue if told to do so, but would not speak in answer to questions, and would lapse immediately into slumber. The plantar reflex was present; the pupils were dilated; the respirations were deep and the pulse was full (120 pr minute), but regular and of good tension and volume. The breast and axillary glands were removed without any great inconvenience to the patient. When returned to bed she continued to sleep profoundly, not awakening until 5 P. M., when she regained consciousness without nausea or other bad effect. The skin was moist and the glandular activity was apparently not affected. Her condition for several days following operation was satisfactory, then she grew progressively worse until death.

The importance of subjecting the extirpated growth to a microscopical examination was illustrated by a case which was diagnosed carcinoma and on pathological examination proved to be fibro-adenoma; another, diagnosed clinically fibro-adenoma, was found to be undergoing malignancy; still another, diagnosed carcinoma, on microscopical examination showed tuberculosis of the breast; another was diagnosed sarcoma, and was later found to be scirrhous carcinoma; another, diagnosed carcinoma, was, in fact, tuberculosis of the breast; still another was diagnosed carcinoma of the breast, and was really a fibro-adenoma, and finally one diagnosed fibroma was found to be adeno-carcinoma.

The 12 cases occurring in colored persons were as follows:

Carcinoma 7, aged 37, 39, 43, 47, 58, 62 and 56 years, respectively.

Sarcoma 1, aged 51 years.

Galactocele 1, aged 25 years.

Adeno-cystoma 1, aged 16 years.

Fibro-myxoma 1, aged 17 years.

Tuberculosis of breast 1, aged 62 years.

The writers are aware that they have not made any specially valuable contribution to medical knowledge by the tabulation of these cases. The number is too small, the records too meager and the pathological investigations too superficial to enable us to do more than show the general characteristics of an unselected series of 100 cases. Of several facts, however, they are convinced from

their own observation, as well as from the recent literature on the subject of mammary tumors. One of these facts is that it is impossible to know whether a given growth is innocent or malignant until a proper microscopical examination has been made. If possible, a frozen section should be made by a competent person and reported on immediately, in order that the surgeon may be guided as to the necessity of performing a radical or a partial operation. When, however, there is a well-grounded doubt as to whether the tumor is benign or otherwise, the patient should be given the benefit of the doubt, and the radical operation should be performed. Secondly, no girl or woman is justified in keeping a growth in her breast, and this injunction is the more imperative as the woman advances in age. All breast tumors should be removed in their incipiency; benign tumors may become malignant, and malignant tumors in a short time may become diffused and beyond successful and permanent eradication. Thirdly, carcinoma probably is somewhat less frequent in proportion to other neoplasms than is generally taught; 62 per cent. of our cases were carcinomata, but this is probably too low a percentage for a normal ratio, and sarcoma occurs in only a small percentage of cases (3 per cent. in this series), which is probably more frequent than is normal.

THE TREATMENT OF FRACTURES. With Notes Upon a Few Common Dislocations. By Charles L. Scudder, M.D., Surgeon to the Massachusetts General Hospital. Seventh edition, revised and enlarged. Octavo volume of 708 pages, with 990 original illustrations. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Polished buckram, \$6 net; half morocco, \$7.50 net. 1911.

The present edition of Scudder will be found the same reliable guide in the handling of fractures as its predecessors. It has few peers and no superiors. As a matter of fact, the latest volume is, if anything, better than the previous editions, which is saying a great deal. The book is written in an easy style, rendering it extremely easy for the reader to grasp the writer's intent. As a textbook for students we have been able to come across none better, and as a reference book for general practitioners there are none better suited to his needs. Even the teacher will find much in it to commend it to his favor. It contains a complete exposition of the symptoms, prognosis and diagnosis of all of the common fractures, with a minute and detailed description of treatment. An attractive feature is the inclusion of the common dislocations. The illustrations are numerous and *apropos*, most of them being original. The X-ray cuts are clear and instructive. The operative or open method of treating fractures is full and modern in tone. The entire question of fracture is handled in an expert fashion, and one will go a long way before he is fortunate enough to get a book better suited to his needs.

ACETONE IN INOPERABLE CANCER OF THE UTERUS.

By A. Samuels, M.D.

THE decided yearly increase of cancer, with not more than 5 per cent. of cures, general practitioners and specialists are constantly called upon to treat more cases of inoperable cancer of the uterus now than ever before. Numerous methods have been advocated for the relief of patients with inoperable cancer, but their very multiplicity is indicative of their shortcomings. Most of them, in fact, are only of historic interest. Modern methods to relieve the exhausting hemorrhage and the fetid odor from the discharges may be classified into three groups:

1. Physical agents in the form of electricity.
2. Palliative operative methods.
3. Biological and biochemical methods.

1. Electricity was suggested in various forms. Cataphoresis, as advocated by Macy (*Conservative Gynecology and Electrotherapeutics*, Philadelphia, 1905), has never been able to gain a foothold in the profession. For a number of years the Röntgen rays were rather promising, but a reaction set in and they were discarded. The Röntgen rays should not have been discarded as absolutely worthless, as they are of undoubted value in selected cases; but, when applied by the inexperienced, the effect of the rays is as dangerous to life as the cancer itself.

One of the latest methods of application of electricity was the high tension spark. The best that can be said of it is that it was a distressing failure.

2. Of the several palliative methods that have been devised, the most popular is the thermocautery. In this procedure the surface of the cancer is burned away, leaving only the charred mass. The charred tissues furnish a barrier against the bacteria of the vagina, and hemorrhages and the discharge cease for the time being; but in the course of a few days the eschar softens, and cracks appear in the blackened tissue, through which the microbes gain steady access to the underlining granulations. The eschar is cast off, and the old cycle reappears, necrosis, with fetid discharge and hemorrhages.

3. Cauterization with chemical agents is not only unsatisfactory, but dangerous. For these agents to be effective they must be applied in full strength, and, as a rule, this is so painful a procedure that the administration of ether is almost a necessity. The chemical agents, when applied in full strength, may penetrate so deeply as to injure the deep structures and distant organs. They do not check the hemorrhages or lessen the discharge; in fact, the dead tissue produced by chemicals forms an excellent culture medium for the saprophytic organisms.

From a practical standpoint, the fetid discharge from the in-

operable cancer is the most serious, and it may be well to consider the true cause of this offensive discharge. It is not an inherent manifestation of cancer, but the effect of saprophytic bacteria of the vagina upon the cancer cells, which have broken through the normal epithelium. Cancer cells grow more quickly than normal cells, but they do not live as long. They possess no defensive apparatus whatever, and in the contest with bacteria they sooner or later succumb. The result is necrosis and the fetid discharge. It will, therefore, be seen that the whole idea of cauterizing the diseased area is faulty, for, by cauterization, we produce a necrosis of the living cells, the very thing that we have set out to combat, and we cannot relieve a spontaneous necrosis by an artificial one. The truth of this reasoning is proved by the number of more or less elaborate operations that have been devised to supplant the simple procedure of cauterization.

The maxim was advanced by Freund, "that in such a hopeless disease as cancer, even the most heroic treatment is justifiable." It is doubtful whether this maxim, which, to a certain extent is true, should be carried out to the letter. It seems rather cruel to subject those pale, emaciated, suffering women to more pain from chemical cauterization, or to anguish by an operation, without being able conscientiously to hold out the slightest prospect of relief.

Research work along the lines of biological or biochemical products is still in its infancy, and practical results in producing an effectual anticancer serum have not been accomplished. So far, all the modes of treatment that we have attempted for relief of patients with inoperable cancer have been failures, or, at best, with but temporary and highly uncertain results. With these results, and with the increase in the number of inoperable cancer cases, improvement in the treatment is more urgent than ever before.

One of the newer remedies that was first advocated by Dr. George Gelhorn (St. Louis Skin and Cancer Hospital) is the application of acetone. This treatment has given most excellent results in five cases of inoperable cancer. Of course, I do not mean to convey the idea that acetone will cure cancer, because it will not. It simply relieves symptoms. It does not require any special knowledge for its application, and does not cause any increase of pain. It must not be inferred that it can be applied in a careless or haphazard way, for, if applied in such a manner, the results will be indifferent.

The method of applying acetone, according to Gelhorn, and one that I have used in six patients, is the one that I believe gives the best results. The method is as follows: Under anesthesia the cavity or crater is thoroughly curetted. This is done to remove as much of the dead and necrotic tissue as possible. The curetted surface is then dried with cotton sponges. The Ferguson speculum is introduced to protect the vagina as much as possible. The patient's hips are elevated, and through the Ferguson speculum about one-half to one ounce of pure acetone is poured into the wound.

The anesthesia may now be stopped, and the patient left in this position from 15 to 30 minutes. The acetone is now permitted to run out through the speculum by lowering the table, and the cavity is packed with a strip of gauze soaked in acetone. The speculum is removed gradually, and the excess of acetone that may have come in contact with the mucosa of the vagina is wiped off with wet gauze sponges. The surface is then dried, and a cotton tampon inserted into the vagina to absorb any excess of acetone.

After this preliminary curettage and first application of acetone the patient may leave the hospital the next day, as she does not require any future hospital care. The subsequent applications of acetone may be applied at her home or in the physician's office.

Subsequent applications of acetone should begin about five or six days after the patient leaves the hospital, and then be made twice or thrice weekly if the symptoms require it. With the applications of acetone there is a progressive diminution of the crater, and smaller specula may be employed. In making subsequent applications of acetone, either in the physician's office or at the patient's home, the pelvis should be elevated, as in making the first application, and about the same amount of acetone applied. If the physician is without an office assistant, the patient may hold the speculum in position. Care must be taken, however, not to allow the acetone to run over the vulva. As a precautionary method, to prevent irritation from the acetone, it is a good plan first to coat the vulva and vagina with a layer of petrolatum. After the acetone is allowed to run out, the vagina should be swabbed and a large cotton tampon coated with vaseline introduced into the vagina before the speculum is completely withdrawn. The tampon may be removed by the patient in four or five hours.

The immediate effect from the application of acetone is a slight oozing, which checks itself within a short time. The surface of the crater becomes covered with a thin or whitish film. A slight discoloration may be noted in some parts of the crater; this is due to the action of the acetone upon small bleeding points. The normal vagina is not appreciably irritated. A slight irritation of the skin may take place if the parts have not been previously protected by a thin coating of petrolatum; and outside of the intense burning sensation, which arises from carelessly allowing the acetone to run over the outer skin, there is no pain from the application. The burning sensation, however, soon subsides, and it is rarely, if ever, necessary to employ morphine.

The remote result from the application of acetone manifests itself in the marked reduction of the intense odor. The discharge, which at first is profuse and watery, gradually disappears; hemorrhages occur with less frequency, and are not nearly so profuse. After three or four weeks of this acetone treatment, a considerable diminution in the extent of the wound cavity is noticeable. The walls become smooth and firm, and in one instance the walls were so firm that the finger could not remove any friable tissue.

With the stopping of the weakening hemorrhages and discharges, the general health of the patient for the time being improves visibly, and the pain is somewhat lessened. In two patients in whom cancer had extended to neighboring organs, while the discharge and hemorrhages ceased under its application, the pain was not relieved, and morphine in large doses was necessary.

The application of acetone is contraindicated in patients in whom the cancer has extended, and an opening formed either into the rectum, peritoneal cavity or bladder. However, when a cancer has gone so far as this, the patient's days are so few that the only treatment here would be the free use of morphine. In cases in which it is not contraindicated, it may be used without fear, as absorption does not take place.

While it is almost too soon to claim that acetone will do more than other remedies which have been tried, it will check hemorrhages otherwise uncontrollable and lessen discharges. Being easily applied and harmless, and relieving pain rather than increasing it, should encourage its further use.

COLLECTED PAPERS BY THE STAFF OF ST. MARY'S HOSPITAL (MAYO CLINIC), ROCHESTER, MINN., 1910. Collected Papers by the Staff of St. Mary's Hospital for 1910. Octavo of 633 pages, illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$5.50 net. 1911.

The contributions of the Mayo Staff are of such world-wide interest and so unique in character that their decision to preserve them in bound form is to be greatly appreciated by the medical profession. The great amount of work done at this clinic enables the writers to speak authoritatively in their special field of endeavor. The present volume represents the contributions to medical literature by these men during 1910, and covers nearly every field of surgical effort. Here are to be found described the methods which the Mayo brothers and their assistants have found most useful in meeting the manifold conditions with which they have been confronted. Besides papers by Drs. W. J. and C. H. Mayo, are others of as unusual interest and helpfulness by such distinguished men as Christopher Graham, Edward Starr Judd, William Carpenter MacCarty, James Taft Pilcher, Henry Plummer and Louis B. Wilson. One must not think that the volume is of use only to the surgeon, for such an idea is contrary to fact, as there are a goodly number of articles which deal with purely medical matters. As a matter of fact, this volume, as the former, is a small encyclopedia on medical and surgical questions of the day. Within its cover are articles on medicine, surgery, pathology, diagnosis, etc. Its nature is such that every practitioner can read it with profit, and it goes without saying that the progressive surgeon cannot be without it.

SOME TENDENCIES IN MEDICAL EDUCATION IN THE UNITED STATES.

By *Lewellys F. Barker, M.D.*

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(Continued from November.)

DISCOVERY IN INTERNAL MEDICINE.

The third great function of the clinic of internal medicine is that of original investigation. It is a fortunate feature of clinical work, one doubtless that has had much to do with that steady progress in knowledge which throughout time the clinics have made, that even the routine work in a clinic is largely work of research. Each new patient is a problem for investigation; the clinician applies the methods he has learned and tries to solve it. The essentially inquisitive nature of the every-day work of the clinician has to be personally known to be fully appreciated. In addition to the ordinary routine of clinical work, physicians are constantly trying out new methods of examination and treatment that have been devised and recommended; this work, carefully done, the observations being accurately recorded and analyzed, affords material for statistical inquiry, the results of which are often of high importance to the profession. When a new method of determining clinically the size of the heart has been proposed, or an early diagnostic test for typhoid fever or for syphilis or for carcinoma of the stomach suggested, long experimental proving in the clinics must decide as to its value before it is accepted for general routine. A great clinic, scientifically controlled, can thus continually advance knowledge and help on the practical work of the profession.

It is, naturally, not the function of the clinic to do work in abstract anatomy, physiology or pathology. The aim and purpose of the clinic is, on the contrary, to continue the applications already made, and to make new applications of the facts of anatomy, physiology, pathology, chemistry, etc., to the solution of problems in diagnosis and therapy suggested by patients who come to the clinic for help. Unless clinical men fully realize this point, unless they have a full consciousness of precisely what the clinic is for, they may be led astray by those who feel that "applied science" is very different from "science."⁵ Clinicians are sure, now and again, to make certain contributions to pure physiology or pathology when trying to solve their own problems in diagnosis and therapy. They will be glad when their work so contributes, but this should

⁵A mathematician sometimes feels that his work is more scientific than the work of the chemist or physicist; the latter, in turn, is too prone to regard the biologist or physiologist as an unfortunate worker in applied science, and to speak with some contempt of the efforts with complex and mixed substances made by the biologic chemist, or the immunologist; the physiologist and the pathologist, again, only too often fail to attribute scientific value to the efforts at application of the facts of their subjects made by clinicians. There will always be, I fear, this misunderstanding of the applied sciences by the sciences basal to them.

not be the main aim and purpose of that work; as soon as a man in the clinic finds it to be so, it is time that he left the clinic and transplanted himself to a laboratory of physiology or pathology. Clinicians must jealously guard opinion in this matter; otherwise, their sciences cannot satisfactorily progress.

In the United States there has of recent years developed much sympathy with the German ideal, which requires not only that every university professor shall know the results of the most recent researches in his subject, but that he himself shall also be an investigator and forwarder of knowledge in the branch of science which he teaches. A modern department of internal medicine, according to this ideal, will be not only a place for transmitting what is known to medical students, but also a place in which the unknown is actively explored, teachers and pupils, though engaged in the routine work of the clinic, living also in an atmosphere of original research. Students profit when they observe knowledge in its growth; to some extent, at least, they should control the facts which they learn from books and from teachers by first-hand examination; they should be encouraged to apply the methods of modern scientific investigation to the objects which they themselves observe. Thus introduced to the spirit and method of scientific inquiry, the students are protected from the dogmatism which so often accompanies mere traditional teaching. They see for themselves the weak spots in internal medicine, and begin to think of methods of attacking them.

In Germany the ideal of research has been so glorified that some of the professors, even in the clinical branches, have devoted themselves largely to it with gratifying results in contributions to knowledge. In internal medicine, however, in Germany, the undergraduate teaching has been to a certain extent sacrificed for the sake of research, the system of clinical clerkships not yet having been instituted.

In the United States the emphasis has been laid rather on the teaching of students; clinical research has been, until recently, less cultivated. This may explain the higher state of clinical science in Germany, on the one hand, and the better physicians trained by the good schools in the United States on the other. Germany ought to reorganize its clinical teaching, so as to make better doctors⁶; in the United States we should set about increasing the scientific productivity of the clinics. In both countries the defects are becoming clearer in the academic consciousness; the evils persist less from lack of recognition of their existence than because money and men for the realization of ideals are not yet available.

In order that clinical research may make more rapid advance, and the sciences of diagnosis and therapy be furthered, the experimental method should be more extensively employed. Owing to the peculiar conditions which have prevailed in the clinics up

⁶An effort in this direction, recently made in Germany, may be seen in the "hospital year" now required at the end of the medical course there. It appears to correspond to our hospital internship, made compulsory.

to now, only a few men, either in Germany or the United States, have had the time, interest, training and independent income which have permitted them to do extensive original work by experimental methods in laboratories directly attached to the clinics. Recently, however, more of this work has been done. It has been very welcome, and the time has come when it would seem desirable to make this kind of research more systematic and purposeful, less casual and accidental. Each medical clinic, in addition to its laboratory in which undergraduate students are taught, and in addition to the small laboratories connected with the wards in which routine microscopic, bacteriological, chemical, radiographic and electric examinations are made on patients or on materials derived from the wards, should have three or four special clinical laboratories expressly designed for scientific investigative work for solving problems in diagnosis and therapy, which contact with the patients in the clinic suggests.⁷ In the biochemical laboratory of the medical clinic the methods of modern chemistry may be applied to the solution of clinical problems, especially those of metabolism. In the biologic (serologic) laboratory the problems of infection, immunity and experimental therapy may be approached. The physiologic division of the laboratory may carry on experiments bearing on cardio-vascular, renal and other diseases. If a fourth, psycho-pathologic, laboratory be available, all the better. In these laboratories for medical research there should be medical investigators, especially trained in the so-called pure sciences of physics, chemistry and biology, who will devote themselves to the application of the methods and principles of these sciences to the solution of the special problems by which workers in the clinic are confronted. These men should be paid liberally enough to permit them to devote their whole time and energies to research, the rewards of their positions being regularly enhanced during their productive years.

It would be short-sighted of internal medicine to neglect these powerful engines of exploration and enrichment. The other departments of applied science have set us the example. Technology has demonstrated the efficacy of paid research work for the promotion of the industrial arts (metallurgy, brewing, electrical engineering, sugar refining, food preservation, the manufacture of arms and ammunition, etc.). It would be a distinct advantage if at least one liberally endowed full professorship were provided in the clinic of internal medicine, in which a man of original ideas, thoroughly trained in methods of research, could, undistracted by administrative work, by private or hospital practice or by undergraduate teaching, devote his whole time and energies to it. A mind full of heuristic hypotheses, a curiosity which compels the accurate testing of them, a body inured to intense and confining work, the privilege of continuous, uninterrupted application to

⁷The Organization of the Laboratories in the Medical Clinic of the Johns Hopkins Hospital, Johns Hopkins Hosp. Bull., 1907, xviii, 193-198.

laboratory studies, a guarantee of financial independence, liberal support in the form of equipment, facilities for experimentation, assistants and mechanical aids and the entire sympathy and co-operation of those who attend to the major part of the practice and the teaching of undergraduates in the clinic would be necessary to make the venture fruitful. Assume the existence of such conditions in our departments of internal medicine, and find for the research professorships men of the type of Louis Pasteur, Robert Koch, Paul Ehrlich or Simon Flexner—what dare we not expect in the way of extension of diagnostic recognitions and of means of cure?

And what an opportunity such an arrangement would offer for post-graduate study! A few advanced scholars, desiring to widen the science of internal medicine, could co-operate with such a research professor in the "master workshop," and, according to their ability, experience the wonderful joy of creative work. One who has once been permitted so to participate will never forget it. Many regard this last and highest phase of personal education as the acme of their inner experience.⁸

Despite the unfavorable conditions now existing in the clinical departments, strong men have been attracted to them. All things considered, patients are being very well cared for, good physicians are being trained, a very fair amount of original work has been produced. The bibliographic output, including textbooks, handbooks and publications of original research, compares favorably with that of any one of the laboratory subjects. As to foreign recognition, it has been fully as great for the clinical chairs, if not greater, than for the non-clinical departments. Many foreign clinicians have visited American clinics, and most of the foreign students who have come to this country to work have entered clinical rather than non-clinical departments. Several clinical textbooks have been, and are being, translated into other languages.

THE MOVEMENTS TOWARD REFORM.

The tedium of this long description of the functions of a medical clinic would scarcely be justifiable were it not for my desire clearly to establish a fact of importance, namely, the growth of the functions of the clinic to a size and complexity no longer compatible with the form of its present organization.

Hitherto there has been only one professor at the head of a clinical branch, and he has been supposed to engage in, care for and control all these varying activities, and, in addition, to make the major part of his income in practice outside the hospital, only a few institutions thus far having been able to pay salaries which would defray even a portion of the cost of the clinician's living. Surely the superhuman has been expected!

We have now briefly to consider how the clinics can best be organized to meet modern requirements, and I shall again refer

⁸Cf. Ostwald, W.: *Die Umschau*, January, 1911.

chiefly to the medical clinic, assuming that a plan which will suit its exigencies may, with certain modifications, be applicable to the other clinics.

The first step toward improvement will consist in the spread of the conception of the clinic as elaborated above, in the recognition of the need of a functional division of labor in the clinic corresponding to the growth and enrichment of its varied activities and to the different types and qualities of men attracted to the tasks and problems of clinical fields. Differentiation is perhaps the most characteristic feature of progress of mind; once we have, through an intellectual process, resolved the complexity of the clinic into its main divisions, it would be folly to ignore the sense of achieved distinctions and real stupidity to lose what we have gained by again confusing things which right reason has put asunder. In manning the clinic of internal medicine we should, therefore, keep in mind the constituent functions, choose enough men and assign them to duties accordingly.

Whether to make (1) vertical sections through the clinic with especial reference to the three great functions of (a) practice, (b) teaching and (c) research throughout the hospital, the undergraduate medical school and the post-graduate work, or (2) transverse sections at the levels of (a) the routine hospital work, (b) the undergraduate instruction and (c) the post-graduate instruction, are questions for the wise to decide. Though I lean to the latter method, it is surprising, on consideration, how similar the division of labor would work out whichever way the sections were cut. Those who devote themselves chiefly to the care of patients in the clinic need not be men who do a great deal of teaching and investigation. Those who are mainly responsible for the teaching in the undergraduate school should not be burdened with the care of too many patients, and would of necessity have to limit the time given to investigation. Those, in turn, who give their time and energies almost wholly to research should be protected, as far as possible, from the teaching of undergraduate medicine and from the cares of practice and administration.

Here, then, we have in mind a clean-cut conception of an ideal of organization toward which we may strive. What is now a single professorship could be replaced by a co-operative committee of professors in charge of a large and differential staff. In small and less liberally endowed colleges it may be necessary to be content with one professor and a group of associate professors or associates. In the larger colleges, with greater funds, a group of full professors should be found and supported. The so-called "headship of the department" could be matter of election or rotation, or there might even be "government by commission" within the department. In any case, provision should be made for regular conferences in which the leaders of the work should be intimately and harmoniously associated. This maintenance of the unity of the clinic seems to me better than the disintegration to-

ward which we are at present tending (establishment of separate research institutes; creation of chairs of experimental medicine, experimental pathology and experimental therapy), though the creation of several separate departments would be better than a continuance of the single department in its present overworked and undermanned state.

In an address delivered some years ago, entitled "Medicine and the Universities,"⁹ I made some suggestions regarding the clinical branches; even then, though I was engaged entirely in laboratory work, it seemed to me that the clinics were undermanned, and that the work in them was insufficiently differentiated. In that address it was intimated that the time might come when, in the clinical branches, we should have at least two kinds of professors: (1) Professors on a so-called "university basis," paid salaries large enough to enable them to devote their whole time and energy to teaching or investigation, without engaging in private practice; and (2) professors who give a part of their time to the care of patients in the hospital, to teaching or to investigation, and who, though paid smaller salaries, obtain their income chiefly from the fees of private patients, preferably from consultative or operative work. The ideas there set forth, in the main, still hold good, though it is doubtful if they can be applied in precisely the manner I then suggested. Though the clinic then seemed complex, I know today even more of its intricacies and difficulties, and the problem looks less simple in solution at close range than it did at a distance.

Were a new medical school to be started, with liberal endowment, it would be an interesting experiment to try an organization in which a functional division of labor, such as I have outlined, is provided for and in which some of the professors, especially those devoting themselves almost entirely to research, will be paid sufficient salaries to permit them to escape from practice.

It has hitherto been taken for granted that the professor of medicine in the medical school would engage in medical practice, and that the professor of surgery would have his private patients, each reaping the financial rewards attending on such work. The prominence of such men and their unusual training and opportunities have made them, as a rule, much-sought consultants rather than general practitioners, though many of them naturally began with general private practice in their respective branches, and, as their work grew, limited it later to consultative or operative practice. Only rarely have the occupants of clinical chairs been paid living salaries. As a rule, the clinical teachers have had to depend for their living on the fees of private patients. As a man's reputation grows with the public, the demand on him from outside becomes more and more pressing and difficult to withstand, and is likely to encroach evermore on the time which the clinic itself requires. Though some men of strong character and unusual

⁹ American Medicine, Phila., 1904.

sense of order may systematically apportion their time so as to protect themselves and the clinic from a clamoring public, not all men are able to do so, and our great medical schools show more than one example of professors who, in the earlier part of their incumbency, have devoted a large part of their time and energy to the hospital and medical school, and, later on, have become so involved in practice as to make them less valuable for teaching and investigation. Even when men are strong enough and systematic enough to maintain a fixed relationship among their several activities, hospital work, teaching, research and consultation practice, the question has been raised whether the increased material rewards enjoyed by such men may not be harmful to the men themselves and to the clinics in which they work. This objection, urged especially by those who favor a general movement toward socialism, the substitution of salaried public service for private enterprise, is one which should be carefully considered by medical educators. The whole subject is now being much discussed, and the fact that thus far no unanimity of opinion has been arrived at makes it probable that a good deal is to be said on both sides.

In our reorganized medical schools it does not seem to me probable that it will be desirable soon, if ever, to have all the men of the faculty composed of non-practitioners. It would seem distinctly advantageous to have at least some of the teachers of undergraduates and some of the men who care for the patients in the hospital also engaged in private practice, at least in consultative or in operative work.

In all attempts at reconstruction our efforts should, at first, be tentative. It would be a mistake to start with any cut and finished garment that we should ask the medical schools immediately to don. Though having the essentials of our ideals in mind, the proper method of attaining to them and the proper expedients would have to be slowly established. At an early stage of reform, anything like extreme measures should be sedulously avoided. In making profound changes the process of transition must not be flatly ignored. The ideal clinic can scarcely be attained by proclamation. The obstacles in the way of progress must be carefully measured, and we must keep in mind the cardinal fact that "all true development and progress are out of and because of what has gone before."

It is among the inconveniences attending all important reforms that the disciple overstates the teacher, exaggerates some features of his doctrine and is obvious to, or insufficiently appreciative of, others. There is always danger of confusing novelty with originality and alteration with progress. Because we desire research is no reason for doing away with teaching and practice in the clinic. Nor would, in my opinion, the limitation of every professor in a university to the material rewards of an insufficiently

salaried position prove a panacea or a magic "open sesame" to the medical millennium.

Some enthusiasts urge the summary dismissal of the clinical professors now active and the substitution of non-practicing men. Even if this were advantageous for all the chairs, as some erroneously think, it would be difficult to apply such an organization abruptly in the schools already established. Men who now occupy the clinical chairs and who have of necessity ordered their lives for the double function of professorships, on the one hand, and of consultative or operative work on the other, have become so involved in obligations that they could not suddenly change to a salaried basis without great hardship to themselves and their families and loud complaints from the public. The cost of living of one who has to make the larger part of his income by consultation work in internal medicine or operative work in surgery is of necessity wholly other than that of a professor who limits his work entirely to the university and lives on a salary. The former has to have a different kind of house, in a different part of the city; rapid and easy transit is necessary for him if he is to husband his time and his energy, and, in general, he is involved in a scale of expenditure correspondent to the life he leads. If it were demanded that these men should abruptly become whole-time professors and give up the remuneration they now receive from private patients, it would mean the elimination of the majority of them from the medical faculties and their replacement by younger and less experienced clinicians. Now, the majority of our leading clinical men today would, I believe, of their own free will, give up their chairs to so-called "whole-time" men and be content to be part-time professors if large endowments for the purpose were at hand, if a great reform in the clinical subjects could thus be made and a sufficient number of adequately trained and intellectually able men could be secured to take their places. But it may well be doubted whether a sufficient number of entirely suitable men are now available for the purpose. Hitherto there have been no endowed clinical professorships, and should they be established, men would have to be trained especially for them. For this reason alone, the change could not be promptly brought about; and besides, any extreme and harsh measures like compulsory expropriation of the chairs might do damage, inasmuch as anything that makes the tenure of university professorships insecure injures the universities.

It must be kept definitely in mind that the majority of the present incumbents of clinical chairs hold them in good faith; that they do their best in the conditions that now exist; that they, as much as any group, desire to see the clinical subjects advanced, to have the patients better cared for, to improve the teaching and to augment the scientific output. The rightfulness of the kind of work the clinical men are doing has always been taken for granted. It may be a mistake for our medical schools to continue to have all

the clinical professorships as they have been; it may become educationally advantageous radically to alter the vast tradition of relationships in which clinical teachers now live. If so, the change can doubtless be brought about in an orderly and reasonable manner, and no ingratitude should be shown to those who up to now have tried to hold the torch aloft under unfavorable conditions. Above all, all honest, earnest, hard-working men should be protected from the zeal and overstatements of head-long advocates who insinuate the absense of ideals among clinical men or talk of graft, rascality, commercialism and the exploitation of the clinical chairs for private profit.

The reconstruction in the clinical departments, when it is undertaken, ought, therefore, to be a sane and gradual process, a process of careful readjustment to changing conditions, going only as fast as men can be suitably trained and academic opinion correspondingly educated. Carried on in such a way, the reforms will be welcomed and hastened by every progressive, right-thinking clinician. Our better physicians and surgeons are broad-minded men; they are by no means devoid of the quality of self-abnegation nor of the spirit of public service; on the contrary, they are entirely capable of assuming their fair share of renunciations when conditions demand them, and of making personal sacrifices for the general good. Convince such men of the evil which exists, and they will be no antagonists to the forces of reform, but, on the contrary, willing leaders of those who try to root the evil out.

After provision has been made for school-controlled hospitals, in which students may live and work, we must find places for the different kinds of clinical men—practitioners, teachers, investigators. There is room for all three types, and all three kinds of work are desirable and honorable. We have a homely saw to the effect that square pegs should not be put into round holes, an adage which finds its more polished equivalent in the Greek “Character is Fate.” In every branch in a medical school students should come into contact with the stimulating investigator who is ever pushing forward the boundaries of knowledge; he should learn the main facts that have already been discovered from a teacher who knows how to collect them and to transmit them to others, and he should have the opportunity of watching the example of practitioners who come into contact with all sorts of patients and all sorts of doctors, who are acquainted with the great variety of clinical puzzles which are presented to the consultant for solution and who learn the virtues and defects of the men now engaged in medical practice in different parts of the country.

After giving these matters much consideration, there is one suggestion that I should like to offer as an immediate means of magnifying the scientific productivity of our clinics and of training men for leadership in them. Provide endowment for the maintenance, in each clinic, of a group of young scientists of

proved ability and capacity for development, and relieve these men of most of the routine work of teaching and the care of patients, that they may have leisure for investigative work in the wards and clinical laboratories. A suggested scale of remuneration for such men might be an initial salary of \$800 or \$1000 per year and living in the hospital, with a yearly increase of \$200 or more for the next 10 years. These men, so kept at work during their most productive years—usually between the ages of 25 and 45—would rapidly increase the scientific output of the clinics, and would speedily form a group of scientific men in the clinical branches from among whom, later on, professors in medical schools and investigators in research institutes could satisfactorily be chosen. Appointed to professorships, men so selected would not need to be hedged about by too great restrictions; their training in scientific methods and ideals would have been such that they could not quickly be spoiled. There should then be no attempt to interfere with the full play of their individualities; their positions should be made as unhampered as possible; they would of themselves chip away “the spendthrift liberties that waste liberty” and devotedly give their time and energies to the advancement of the subjects they represented. Their appointments as professors might automatically cease at the end of a given term of years, or when a certain age limit had been reached.

This occasion does not, of course, permit of any full discussion of the points I have raised. Perhaps I have said enough to call some of the interests to mind and to assure you that the men connected with the medical schools in the United States, like those in Canada, are doing all they can to elevate standards and to improve conditions in that noblest of all professions—medicine.

1035 N. Calvert Street.

Book Reviews.

THE FOURTH PHYSICIAN. A Christmas Story. By Montgomery Pickett. New York and San Francisco: A. C. McClurg & Co. Cloth, price, \$1 net.

“The Fourth Physician” is a very sweet little Christmas story, absolutely clean and permeated by a very high moral tone. It deals with a Southern family transplanted to New York, where there is misery and squalor everywhere to engage the sympathetic labors of the daughter of the family. A young and fashionable physician is in love with this girl, but her fear that the winning of fame is more to him than the alleviation of suffering through his work is the seemingly insurmountable barrier between them. He has just made a great discovery, on which hinges his future, when he is besought by a former classmate to give up an engagement with an eminent German physician, then visiting in the United States and through which he expects much, and to come down to the

slums with him and help him save the life of a little pauper girl. He has been besought to go to this very case by the young Southern girl, and has refused. By dint of much persuasion the doctor of the slums prevails upon the fashionable physician to accompany him, and though his efforts were without avail, yet once arrived his interest was so keyed up that he worked without regret for the honors he had lost through his failure to keep his engagement, and a "new light" concerning the physician's rôle toward his fellow-beings comes to him. The next day, through the colored butler, the Southern girl learns of his endeavors to save the child, and, of course, the story ends happily. "The Fourth Physician" is readily understood to be the Master, who has gathered the sick little one unto Him, "where there is no more suffering and no more sorrow."

A POCKET MEDICAL DICTIONARY. By George M. Gould, A.M., M.D., Author of the "Illustrated Medical Dictionary," the "Practitioners' Dictionary" and the "Students' Medical Dictionary." Sixth edition. Revised and enlarged. Philadelphia and London: P. Blakiston's Son & Co. Price \$1. 1911.

The sixth edition of Gould's "Pocket Medical Dictionary" contains 34,000 words used in medicine and the associate sciences. There is always a need of an up-to-date medical dictionary of this character, as the terms employed in medicine are constantly changing. Besides the definition and pronunciation of the principal words, the book contains a table of symbols and abbreviations employed in medicine, of the arteries, muscles, nerves, bacteria; dose-list of drugs and their preparations; both the English and metric systems of weights and measures, etc. As a quick reference dictionary for doctor, student or nurse, it will be found entirely dependable and reliable. It is needless to state that the definitions are not as complete as in the larger medical dictionaries; this is not the function of the present volume. It is intended as a handy pocket book, which can be carried into the lecture-room and elsewhere. As a book of this character, it is of the greatest utility.

A TEXTBOOK OF PHYSIOLOGY. For Medical Students and Practitioners. By William H. Howell, Ph.D., M.D., Sc.D., LL.D., Professor of Physiology in the Johns Hopkins University, Baltimore. Fourth edition, revised. Octavo of 1018 pages, fully illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$4 net; half morocco, \$5.50 net. 1911.

The science of physiology, as the other component sciences of medicine, has undergone so many changes in the past few years that a book in date today is out of date tomorrow. To keep abreast of these advances has rendered it necessary for book-makers on physiology to every few years materially alter their text. As Professor Howell's book has from its very first appearance

enjoyed the confidence of the profession, he has from time to time been compelled to revise his text. The present revision is merely one of those periodic occurrences which has been called forth to render the book of the most use to its readers.

This edition of Howell is written in the same conservative manner so characteristic of the author, whose wide experience as a teacher and investigator particularly fits him for such a task. The development of the subject is natural and continuous. We are particularly impressed with the rejection of many contradictory theories on the mooted theories of physiology, the writer selecting the most probable. This method of procedure is ideal, as it does not befuddle the mind of the student with contradictory facts, and enables him to grasp the broad principles of the subject more readily. The fundamental facts and principles of physiology are set forth clearly, succinctly and plainly. A feature which should commend the book to the heart of every student is the absence of a mass of statistical detail. The writer has realized the necessity of positiveness of statement if the volume is to be of service to students. This volume is destined to occupy as prominent a position as heretofore and to be considered as a standard work.

DESCRIPTIVE CATALOGUE. Medical, Surgical and Dental Books.
St. Louis: C. V. Mosby Company. 1911.

This very attractive booklet has been issued for the purpose of acquainting the profession with the medical, surgical and dental publications of the above-named firm. It contains a complete list of the current books on these subjects published by the firm. When about to purchase books on any of the above-mentioned subjects, physicians will find this catalogue a good guide in determining their selections. The firm extends a cordial invitation to physicians visiting St. Louis to visit their office and to examine their stock. Responsible physicians can make arrangements for special monthly payments, the details of which the company will be very glad to explain. Such an arrangement renders it extremely convenient for prospective purchasers when buying, and makes the acquisition of a library financially not irksome.

ONE HUNDRED SURGICAL PROBLEMS. The Experience of Daily Practice Dissected and Explained. By James G. Mumford, M.D., Visiting Surgeon to the Massachusetts General Hospital; Instructor in Surgery, Harvard Medical School; Fellow of the American Surgical Association, etc. Boston: W. M. Leonard. Cloth. 1911.

This book is merely another endeavor to get back to the old way of teaching and illustrating surgical problems by case teaching. There is no doubt that in proper hands this method of imparting knowledge to the shooting idea is of great advantage. It trains the mind to think quickly and illustrates well how difficult in many instances it is to arrive at proper deductions. From the textbook

the student is led to believe that the symptom complex of any given disease is always as plain as your nose on your face. This leads to an improper idea as regards the science of diagnostics, and when the young doctor is turned loose on the public he is immediately brought face to face with borderland cases; he is bewildered, and hardly knows how to proceed to arrive at a diagnosis. Therefore, it is well that writers are turning their attention to teaching by case example, and we have in this book by Mumford an excellent exposition of the method. The examples have been carefully selected from actual cases, each one admirably illustrating an important problem in diagnosis or treatment. The book should be found an excellent adjunct by professors of surgery in teaching their branch, and students can gain much useful information from it.

A MANUAL OF THE PRACTICE OF MEDICINE. By A. A. Stevens, A.M., M.D., Professor of Therapeutics and Clinical Medicine in the Woman's Medical College of Pennsylvania. 12mo of 573 pages. Illustrated. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Flexible leather, \$2.50 net. 1911.

This manual of the practice of medicine has been prepared especially for students, and the fact that it is now in its ninth edition answers for its popularity and usefulness. It is a manual; no more, no less, but as such will be found extremely useful in following and amplifying classroom work. While the text on any one subject is not exhaustive, it is sufficiently fulsome for student purposes. The author has evidently exerted care in not including disputed theories, but only propounds those which have been proven, thereby not befuddling the student's brain with a mass of contradictory statements. What's in the book can be used in everyday work, and that is what a man who is about entering on the practice of medicine demands. For quick reference, the general practitioner will find the book entirely trustworthy and full of helpful suggestions.

CESARE LOMBROSO. A Modern Man of Science. By Hans Kurella, M.D., Author of "Natural History of the Criminal." Translated from the German by M. Eden Paul, M.D. New York: The Rebman Company, 1123 Broadway. Cloth, \$1.75 net. 1911.

Criminal sociology is today receiving greater attention by the physician, jurist and social worker than ever. So much data has been collected that criminology may even now be stated to be on a scientific basis. Enough material on the subject has been collected to warrant the conclusion that most criminals are anatomically and physiologically imperfect in their development. In some the front lobe has been found to be as poorly developed as in their uncivilized forebears. Cesare Lombroso was one of the

first investigators, if not the very first, to recognize this fact, and it is the part which he took in the development of criminal sociology with which this book is concerned. His labors, observations and conclusions are clearly presented by the author, and anyone interested in crime as a symptom of imperfect development of the individual will be amply repaid by a careful perusal of this book.

LIPPINCOTT'S NEW MEDICAL DICTIONARY. By Henry W. Cattell, A.M. (Laf.), M.D. (U. of P.); Editor of International Clinics; Fellow of the College of Physicians of Philadelphia, etc. Second edition. Philadelphia and London: J. B. Lippincott Company. Flexible leather, \$5 net. 1911.

The editor of a book wants no better assurance of its needs than a demand for a new edition within a year of its last appearance. Such is the record of "Lippincott's Medical Dictionary." Consequently there can be no quibbling over the statement that there is something in its make-up which has appealed to popular fancy. In this edition, as in the former, the purchaser will find the definitions full and comprehensive. He will find it next to impossible to seek a definition of a term employed in medicine, dentistry, veterinary medicine and the allied sciences in vain. Moreover, it contains a large amount of extraneous information of paramount importance. It is a pleasure to note that the editor has discarded the phonation glossary after terms, thereby saving much space. The plan employed of separating the word itself into its component syllable seems all-sufficient for individuals as well educated as physicians should be. It gives us great pleasure to assure the prospective purchaser of a medical dictionary that Lippincott's will most excellently meet his demands.

NURSING IN THE ACUTE INFECTIOUS FEVERS. By George P. Paul, M.D., Town Health Officer, Round Lake, N. Y.; sometime Visiting Physician to the Samaritan Hospital at Troy, N. Y. Illustrated. Second edition, thoroughly revised. Philadelphia and London: W. B. Saunders Company. Baltimore: The Medical Standard Book Co. Cloth, \$1 net. 1911.

Nurses will find in this little book much valuable and practical information concerning nursing in the infectious diseases. It is written in plain, simple English, the author avoiding as far as possible technical terms and phraseology. From beginning to end he seems to have always had in mind the class of readers to whom it is addressed. The contents are divided into three divisions. Part I deals with general considerations, such as fever in general, hygiene of the sickroom, diet of the sick, reduction of fever, detection of complications; Part II, with special diseases, such as typhoid, smallpox, diphtheria, etc.; Part III, with a brief discussion of such topics as antitoxins and bacterial vaccines, urine and examination, enemata and topical applications, antiseptics and disinfection, etc. Every nurse would find this book a great help in her work.

MARYLAND MEDICAL JOURNAL

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BALTIMORE, DECEMBER, 1911

GONORRHEA.

OWING to the double standard, the lack of publicity and perhaps a false sense of modesty, this disease has been permitted by the profession to wax stronger every year; this in spite of the many physicians and prominent laymen organized in prophylaxis societies. When we calmly consider the untold misery it is causing its innocent victims, women who are being made invalids through no wrong-doing of their own, and little children who are endowed with a heritage of blindness as the result of evils of which they know nothing, we cannot believe that the medical profession has lived up to the standard that it should, or else more effort would have been expended in checking and controlling the spread of gonorrhreal infection.

Many intelligent men and women, practitioners of medicine, social workers, wearers of the cloth and others in close touch with modern conditions believe that restriction is practically impossible under present conditions, and that efforts to check its inroads will simply make for secret victims; others equally thoughtful and equally conversant with the subject think that a great step toward the complete elimination of the disease would be made if every case were made reportable to the health authorities, just as all other infectious diseases are now ordered reported by law; and that with a fine attached for its non-reporting soon its suppression would be a matter actively under way.

If gonorrhea were today a reportable disease, the publicity attached would act as a deterring agent to those inclined to run the risk of contracting the disease; and, after the first hue and cry against such a law had died down, and its active enforcement had

become an established fact, regardless of the persons concerned, its value would be distinctly recognized. Dr. Lucien Howe of Buffalo is on the right track when he says that only little by little have we learned to report smallpox and the other contagious diseases. The crusade against tuberculosis is under way. Apparently the time is ripe for some effort to restrict or to eradicate gonorrhea also. Legislation to this end has already been taken in Indiana, Vermont and California. Dr. Howe states that the State Board of Health of New York, already with its plenary powers, has the right to order gonorrhea as a contagious disease to be reported, but realizes such an outcry would be raised that at present such an order would be unwise. They appreciate that not only the profession, but the laity also, must be educated to the dangers of a gonorrhreal infection and the importance of its registration.

To our mind this is the only feasible method of controlling this affection, and the Maryland State Board of Health, if not already, should undertake the task of placing the Neisser infection on the list of reportable diseases.

SUPPURATIVE SINUSITIS.

SUPPURATION of the nasal accessory sinuses has only of late, even by the otologists, been recognized as a frequent source of headache and other more or less indefinite symptoms. Even today the general practitioner is prone to overlook these cells as a possible source of trouble. Mr. Herbert Tilley, writing in the *Lancet* on acute and chronic suppuration of the nasal accessory sinuses, emphasizes how little was known a few years ago about sinus diseases by the nasal specialist. He was especially impressed with the frequency of suppuration of these sinuses and the frequency of its overlooking. Owing to the close proximity of these cells to vital structures and the possibility of the suppurative process extending, prompt recognition of suppurative sinusitis is imperative. In many instances a recurring morning headache and a slight nasal discharge are the only symptoms of which the patient complains, and generally it is the headache which makes him seek the advice of a doctor. Therefore, when a patient seeks advice concerning an intractable headache which a careful physical examination cannot account for, remember the possibility of involvement of the nasal sinuses as an occasional etiologic factor, especially if there is a purulent nasal discharge.

Medical Items.

MR. AND MRS. ROGER W. CULL have announced the engagement of their daughter, Sarah White, to Richard Caldwell Hume, M.D., University of Maryland, '06, of Brookmeal, Va.

DR. JOHN J. VALENTINI, 16 S. Broadway, has been appointed surgeon to the Fire Board, succeeding Dr. A. J. Underhill.

MR. AND MRS. JAMES HARRIS PATTERSON of Denison, Iowa, have announced the engagement of their daughter, Elizabeth Olive, to Dr. Charles Mallory Remsen, Johns Hopkins Medical School, '04, of Atlanta, Ga.

THE University of Maryland celebrated Academic Day November 13 with appropriate exercises. The General Alumni Association of the university celebrated by a banquet in the evening.

DR. LEWIS MINES ALLEN, formerly of Baltimore, but now practicing in Winchester, Va., was a recent guest in Baltimore.

DR. ALEXANDER SAXTON, 432 North Carcy street, is confined to his home with painful, though not serious, injuries as the result of an automobile accident at Liberty and Lexington streets.

FOLLOWING an appeal from many Baltimoreans, as individuals and as members of various local organizations, Dr. John M. T. Finney has decided to remain in Baltimore, and has notified the nominating committee of the Board of Trustees of Princeton University that he will not be a candidate for the presidency of that institution.

GOSSIP runs rife that Dr. Rupert Blue of North Carolina, who was well known in Virginia and Maryland during his student days at the universities of Virginia and Maryland, will be appointed by President Taft to fill the vacancy caused by the death of Surgeon-General Walter Wyman. Dr. Blue is best known for his studies in bubonic plague and yellow fever.

THE seventh session of the Maryland Conference of Charities and Corrections opened in Osler Hall, 1211 Cathedral street, Monday, November 27, 1911.

A UNIQUE idea in charity has been evolved by the women of Baltimore, who sold a "One-Day Journal" for the benefit of the Home for Incurables. Every article in the paper was written by women, and they did the entire editorial work on the magazine, which was highly creditable to their efforts.

MARRIAGES.

LEO GEORGE SCHEURICH, M.D., University of Maryland, '08, of Tomah, Wis., to Miss Margaret M. Gasper of Adrian, Wis., at Adrian, November 22, 1911.

JOSEPH KILE COWHERD, M.D., University College of Medicine, Richmond, Va., of Cumberland to Miss Grace Gantz of Hagerstown, at Hagerstown, November 15, 1911.

GEORGE W. DEHOFF, M.D., Atlantic Medical College, '05, to Miss Pearl Burling, both of Baltimore, at Ithaca, N. Y., November 2, 1911.

H. KENNEDY DULANEY, M.D., of Perryman, Md., to Miss Helen Roberts Barnard of Baltimore, at Baltimore, October 31, 1911.

EDGAR MERRYMAN PARLETT, M.D., Baltimore Medical College, '02, to Miss Annie Clarke Barr of Baltimore, at Baltimore, November 2, 1911. They will reside at New Castle, Pa.

ERNEST HARRISON ROWE, M.D., University of Maryland, '06, to Miss Nina Grace Horner, both of Baltimore, at Baltimore, November 23, 1911.

DEATHS.

OLIVER J. GRAY, M.D., University of Maryland, '02, died at his home in Wilmington, Del., September 29, 1911, of pneumonia, aged 31 years.

THOMAS SUPLER, M.D., College of Physicians and Surgeons, coroner of the Eastern District, died at his home in Baltimore November 14, 1911, of paralysis, aged 61 years.

PIERRE GEORGE DAUSCH, M.D., University of Maryland, '68, died at his home in Baltimore, November 26, 1911, of heart disease, aged 65 years.

**Water-damaged August 1978.
Frozen and vacuum freeze-dried 1979.**



